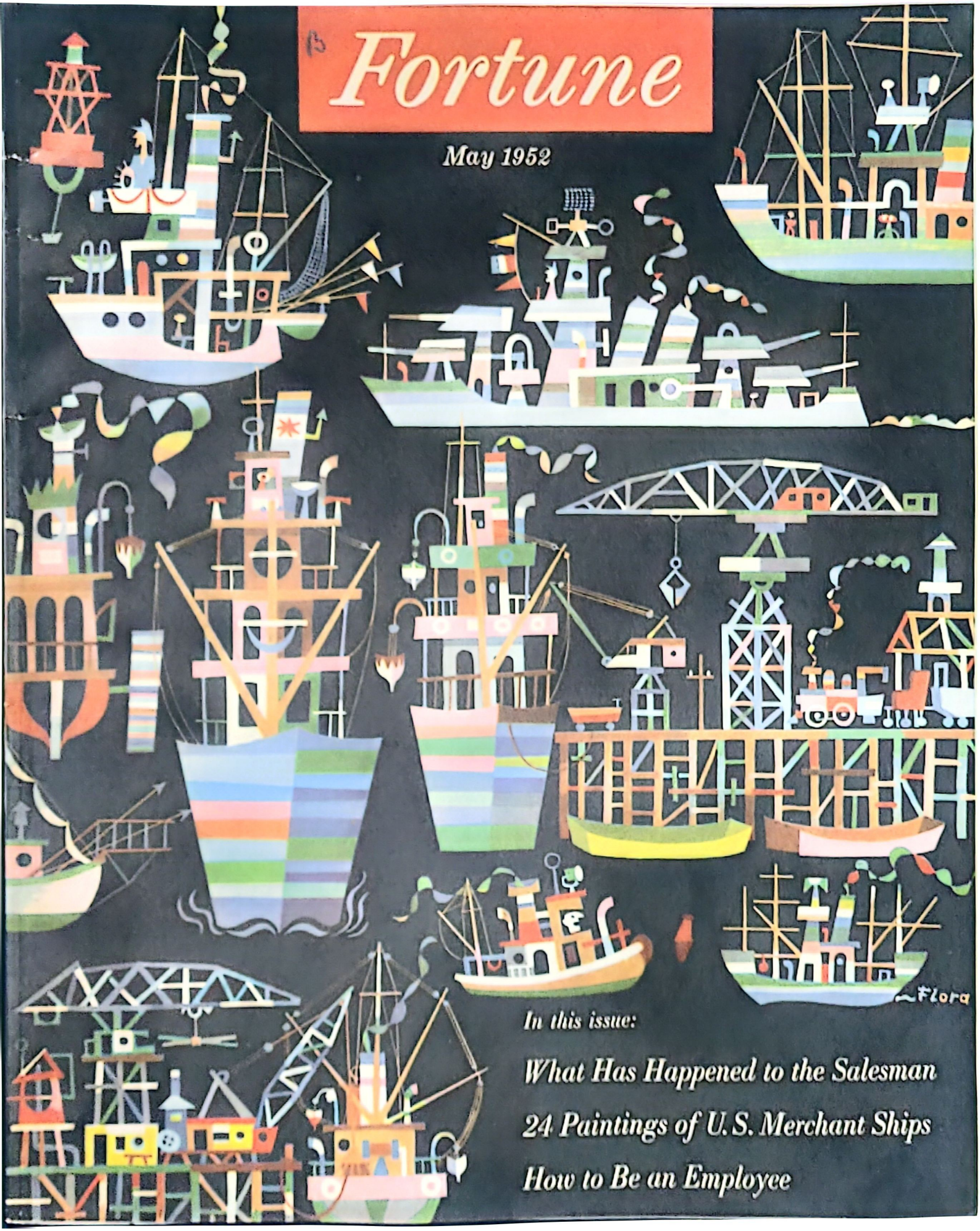
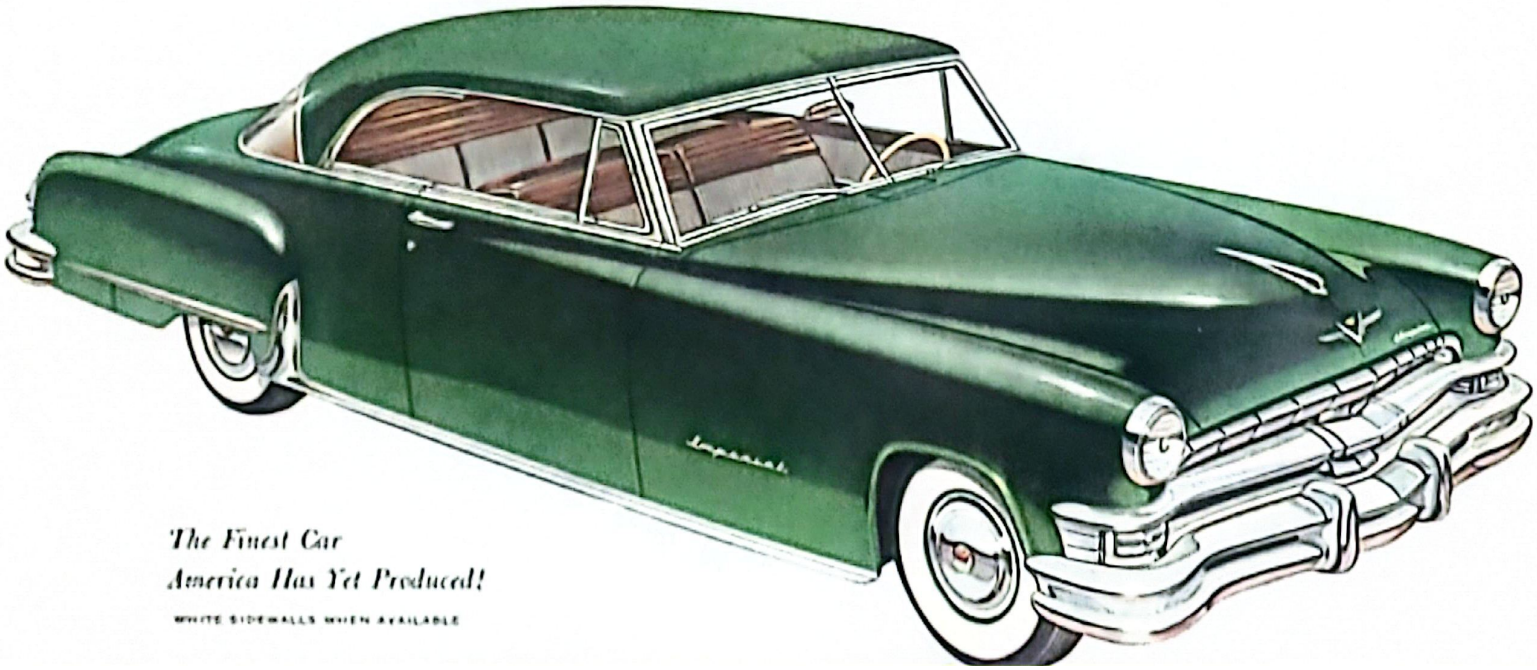

Fortune
May 1952
Flora
In this issue:
What Has Happened to the Salesman
24 Paintings of U.S. Merchant Ships
How to Be an Employee

Imperial

BY CHRYSLER

You have heard the admiration in the voices of your friends as they spoke of it . . . noted its gracious perfections on the highways. But only after you, yourself, have driven and experienced the Chrysler Imperial's matchless performance will you understand why it is becoming the first choice among the discriminating . . . the new leader of the world's fine cars. More and more, those who can afford any motor car in the world, choose the Imperial by Chrysler.



The Finest Car America Has Yet Produced!

WHITE SIDEWALLS WHEN AVAILABLE

R/M Products for Farm Equipment Help Feed America's Millions

Our national appetite for food is terrific. And keeping it satisfied is a whale of a job. America would probably know hunger—certainly prohibitive prices—if our farmlands weren't plowed, planted, cultivated and harvested with smooth-running mechanized equipment. Without it, farmers could never supply enough grain, vegetables and milk, orchardists enough fruit, stockmen enough beef, lamb and pork, poultrymen enough fowl.

Millions of farmers who operate this mechanized equipment depend on Raybestos-Manhattan products. For them R/M spells reliability. Their confidence is shared by manufacturers of the equipment and by thousands who sell and maintain it. That's why so many combines are equipped with R/M V-belts, so many threshers with R/M flat belts, so many sprayers with R/M hose, so many tractors, trucks and cars with R/M brake linings, clutch facings, fan belts and radiator hose.

Production of these products, however, is just one phase of R/M versatility. Almost every industry, indeed almost every individual, is served by something R/M makes in its six great plants and laboratories. If you have a rubber or asbestos problem, consult an R/M representative. Raybestos-Manhattan, Inc., Passaic, N. J.

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Raybestos ... *Condor* · MANHATTAN ... Grey-Rock

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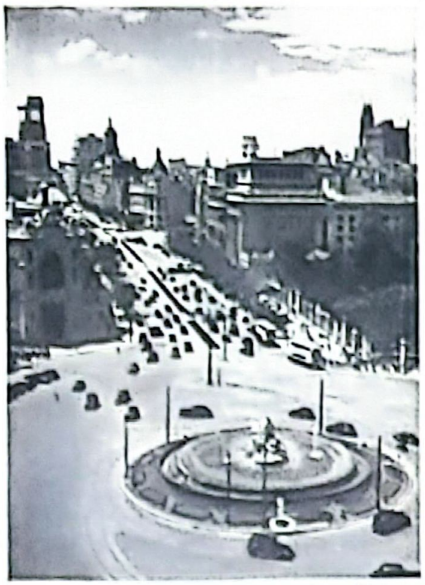
SPECIALISTS IN ASBESTOS, RUBBER, AND SINTERED METAL PRODUCTS



the picture is bright for your vacation

in sunny **Spain**

Wherever you go, whatever you do, the picture is bright and the mood is gay in the laughter-loving land of fiesta.

Travel in streamlined comfort and ease through countryside of heart-lifting beauty . . . to time-hallowed scenes unique in romantic, old-world interest. Stop at unsurpassed luxury hotels or charming, modernized country inns.

Highly favorable dollar exchange helps make costs unbelievably low. And it's all only *hours* away when you fly, direct to gay Madrid, by luxurious, world-proved TWA Constellation. Fast, frequent Skyliner schedules, many low-cost tours are available.

See your Travel Agent, TWA or

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New York: 485 Madison Avenue, New York 22
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Fortune's Wheel

When the FORTUNE advertising sales staff reads the opening paragraph of "Help Wanted: Sales," page 100, second in the selling series, which began last month with "Why Do People Buy?", one of them may confront its author, Editor William H. Whyte Jr., with the story (apocryphal, no doubt) of the comment made by a youngster to the late great editor of *The Saturday Evening Post*, George Horace Lorimer.

It seems that years ago the *S.E.P.* ran contests among boys who sold subscriptions to the magazine. One of the prizes was a trip to Philadelphia to visit the Curtis Publishing plant. As the finale of the tour, the boys were herded into Mr. Lorimer's office for a few words from the great man himself.

And he usually wound up his talk with something like this: "You boys have just seen the finest editorial and publishing plant in the world; and now you have some idea of the great trouble and expense we go to so that you can sell the *Post* every week."

On this particular tour, one twelve-year-old, who today is undoubtedly the v.p. in charge of sales of some large company, said: "Gee whiz, Mr. Lorimer, if you think it's tough getting out this magazine, you ought to try to sell it."

And if one of our FORTUNE advertising men does recall the story, we will be quick to add that, of course, we weren't talking about our own advertising colleagues.

Dockside superintendents

When Lemuel B. Line painted a portfolio of freight trains for FORTUNE'S March, 1951, issue, it delighted so many big boys and little boys who love trains that a supply of 6,100 reprints was exhausted within days—most of them in pairs, for mounting. Accordingly, a supply of reprints of Mr. Line's "Freighters and Tankers," pages 114 through 122, is at hand, and in duplicate, for those big and little boys who like ships.

A freighter enthusiast himself, Mr. Line says the portfolio was almost pure delight. Most difficult part of the job was scaling down the blueprints for accurate measurements: in some cases the prints were six feet long, the paintings only eight inches. Surface details came from photographs, and color from four different sources. Where possible, Mr. Line visited the ship and made his own notes. Otherwise, he used color photographs, scale models, or paint chips taken from the ships.

A graduate of Dickinson College, Carlisle, Pennsylvania, in 1939, Mr. Line specializes in advertising and editorial art. For the past four years he has been Director of Exhibitions at the Philadelphia Museum School of Art.

Dow!—wow!

An informal check of FORTUNE'S editorial prejudices would probably reveal that chemicals and aviation are two of the editors' favorite story subjects. This month, in "The Dow Expansion," FORTUNE reports for the third time on Dow Chemical.

Differing from the first two stories (April, 1931, and December, 1942) in that it emphasizes the management of Dow rather than its scientific accomplishments, this month's story reveals, among other things,

continued page 57

Lemuel Line: freight trains and freighters

Those Price and Wage "Controls"

They should be dropped. A standby stabilization office, plus a working CMP, should see us from here to the new Congress.

The Defense Production Act of 1950, as amended in 1951, expires at the end of June. It will probably be extended for another year. But in what form? That is a large and vexing question, and hardly less so because it is being confronted in an election year. Senator Maybank of South Carolina, charged by the Administration with steering the extension bill through Congress, regards his own Senate Banking Committee as stronger for controls than the full Senate, and the Senate as stronger than the House. The logic of this is that only a third of the Senate need face the voters in November, and the voters have not been noticeably enthusiastic for controls, especially price and wage controls.

The materials controls, also derived from the Defense Production Act, are something else again. After a certain amount of bureaucratic bumbling, CMP is now working fairly smoothly. There can be a good deal of argument as to how long some of the shortages are going to last, but the present shortages of copper, aluminum, some finished steels, and certain other materials are real and unarguable.

There is a rough rule of thumb at DPA that CMP can be suspended when the military bite on any given commodity comes down, more or less permanently, to the neighborhood of 20 to 25 per cent. For this reason, most steel types will be taken out from under controls by the end of this year. Aluminum will probably be decontrolled in the first quarter of 1953. DPA chief Manly Fleischmann believes that copper will be in seriously short supply for at least a year and a half; and that the government has a responsibility to ensure not only that the military get theirs, but that the remainder is divided up among civilian-goods producers in some semblance of traditional market patterns. CMP has wisely abandoned its initial attempt to maintain an order of "essentiality" among civilian producers; there now is no effort to decide whether vacuum cleaners or typewriters are more essential to our military posture. In substance: materials controls are necessary, and the heart of the program must be retained.

The big congressional battle will be over price and wage controls, however, and it seems both likely and appropriate that in this area the Defense Production Act will be weakened rather than, as the Administration is asking, strengthened. The forty-nine business and farm organizations that testified against these controls at the Banking Committee hearings made a persuasive case. The Economic Stabilization Agency, which comprises the Office of Price Stabilization and the Wage Stabilization Board, has cost the taxpayers $138 million thus far (the budget for fiscal 1953 asks $150 million), but the indirect costs to business have been much greater. William Grede, president of the N.A.M., must have spoken for thousands of afflicted businessmen when he complained to the Senators of the onerous "interpretations, analyses, computations, surveys, studies, investigations, determinations, reports, protests, and appeals." Altogether, he guessed, the cost of compliance with the controls might be as much as $2 billion a year for U.S. business. And much of this, of course, must ultimately be paid by the U.S. consumer. Besides, he and other businessmen argued, the relative stability of the past year has hardly been due to wage and price controls; the cost of living has held pretty steady mainly because of heavy taxation, credit controls, and high savings (still running at more than 9 per cent of disposable income).

How much difference?

The Wage Stabilization Board has skimmed the cream off a few large settlements and thrown out a fair number of smaller ones. But in every crucial test—auto, packinghouse, electrical, steel—the WSB has found reasons for giving labor approximately as much as it would have got, apparently, without controls.

Since Korea, straight-time hourly earnings in manufacturing have risen about as much as the Consumers' Price Index (roughly 11 per cent for each), and gross hourly earnings in manufacturing have risen even more (about 13 per cent). Since the widely expected manpower shortage never materialized, there is no reason to suppose that wages would have gone significantly higher in the absence of controls. If the Wage Board has done any stabilizing at all, it has been mainly because the board is so far behind in its work that increases are often delayed.

A somewhat analogous case can be made against the OPS. For three months running the Consumers' Price Index has either held steady or declined. According to OPS figures for "early 1952," items whose value comprises 42 per cent of the retail index were selling below their 1951 peaks—those peaks being a good rough measure of the current ceilings. Of all wholesale prices, 16 per cent were slightly below ceiling and 21 per cent were what the OPS called "significantly below."

Well, what would happen if price controls were entirely suspended on June 30? What about those 58 per cent of retail prices now at the ceiling level? Would they rise so fast and far as to renew the inflationary crisis of 1950? There is only one really firm piece of evidence about those ceiling prices: the record of applications for price increases under the Capehart formula. And the record there shows that prices in general cannot be said, by any stretch of the imagination, to be straining to break through their 1951 peaks.

As of mid-March, only 1,739 companies had applied for Capehart increases, and all of these increases would have represented an annual total of only $800 million—added to the $270 billion in U.S. manufacturers' sales. There is no way of knowing how many companies are legally entitled to Capehart increases, but there must be very few U. S. manufacturers who could not prove some increase in their costs between the date of their peak prices in the first half of 1950 and July 26, 1951. The OPS itself concedes that virtually all the 300,000 U.S. manufacturers are in a position to apply. A good many of these doubtless refrain because of the paper work involved, but many others who are "entitled" to raise their prices are not trying to do so for the good reason that the market—not the OPS—won't let them.

It is hard to see what harm could be done by turning prices and wages loose on June 30. It is true, of course, that the economic climate could change abruptly. A large-scale Chinese Communist invasion of Indo-China, or some other international crisis, might start an inflationary spiral that could not be controlled by credit measures alone. So a revised Defense Production Act might sensibly include standby authority for OPS and WSB and skeleton staffs that could save months of "lead time" if controls had to be put back on. But it scarcely seems necessary to maintain the ceilings themselves, and all the red tape that festoons them, just on the chance that they might be needed. Depending on international events, the U.S. *might* have to subject itself to all sorts of controls—a labor draft, for example—at some unpredictable date in the future. That is no reason for shouldering all the apparatus right now—unless somebody wants to argue that the controllers, or perhaps the controlled, need the practice. END

The steel wars

The long snafu in steel, culminating in Mr. Truman's seizure order, is the latest evidence for the proposition that wage and price "ceilings" are accomplishing little or nothing.

For news of the steel situation's impact on business and on other wage negotiations, see Business Roundup, page 27, and Labor, page 77.

Higher Education on the Cuff

An economist suggests that our impecunious colleges could lend themselves into solvency.

There is general agreement that the U.S. is under-investing in higher education. Virtually every educator and economist who has addressed himself to the problem has concluded (1) that we are allocating too few resources to higher education; and (2) that we are not getting our money's worth on the resources we have invested. Industrialists like Irving Olds have argued that U.S. business ought to contribute more generously to the colleges (see FORTUNE, December, 1951), and literally millions of Americans are being importuned for individual gifts to alma mater. But philanthropy can't do the whole job. And as a broad solution to the problems of the impecunious college—and student—the most familiar proposal is a thoroughly depressing one: more government subsidy.

It is refreshing, therefore, to contemplate a detailed proposal set forth by Ernest van den Haag, a New York University economist who is, in the main, opposed to subsidies. He has set down the conclusions of several years' study in a doctoral dissertation that suggests, briefly, that the neglected source of revenue is the student himself—viewed as earning power.

Mr. van den Haag's proposals treat advanced education as a capital investment capable of returning very high yields. The difference between the cost of a medical education, say, and its value in terms of lifetime earnings is proportionally much greater than the returns ordinarily encountered in the market for investment capital. But there is no known method, short of involuntary servitude, for bringing private investors direct returns on other people's education. This hard fact is what has turned most students of the subject to government subsidies. But subsidies, Mr. van den Haag believes, lead to lowering of entrance and other standards by impoverished universities anxious to cut in on the pie.

The student as a risk

What he proposes is that the colleges themselves invest in talented students who want, but cannot afford, specialized training, with the students to repay them over a period of years after graduation. In the years before these repayments began coming in, the colleges themselves would, of course, be the borrowers. They would go to the capital market with bond issues (perhaps guaranteed by the government) bearing an interest rate of, say, 3 per cent. As a college's graduates began to repay their debts, perhaps at 5 per cent (the margin to cover administrative costs of the loan program), the operation might be transformed into a kind of revolving fund, independent of outside capital.

As creditors, the colleges would have direct control over the assets in which they invested. They would be in a good position to identify the bad risks. They would be able, once they had their investment programs off the ground, to distribute the risks.

The contract between the student and the college could be a very simple one. Its basic terms would vary with the students' costs (tuition, books and supplies, living expenses) and with their reasonable expectations of future earnings. It might be noted, parenthetically, that this suggestion has nothing to do with the short-term lending programs, involving small sums, now established in many colleges.

For the colleges an investment program of this character would mean both increased enrollments and, since the area of selection would become larger, more talented students. But what would such a program mean to the students? Consider a hypothetical case:

At New York University the cost of eight years of medical education, including tuition and supplies, but not living expenses, is about $6,500. Let us suppose that, instead of investing the $6,500 in a medical education, a prospective student who had somehow been able to acquire that amount used it to purchase an annuity, with all principal and interest to be used up after fifty years. If he did that, the annuity would pay him $200 each year. In addition, let us imagine that he spent those fifty years as a skilled worker in industry, earning, say, $3,600. That would give him an average annual income of $3,800.

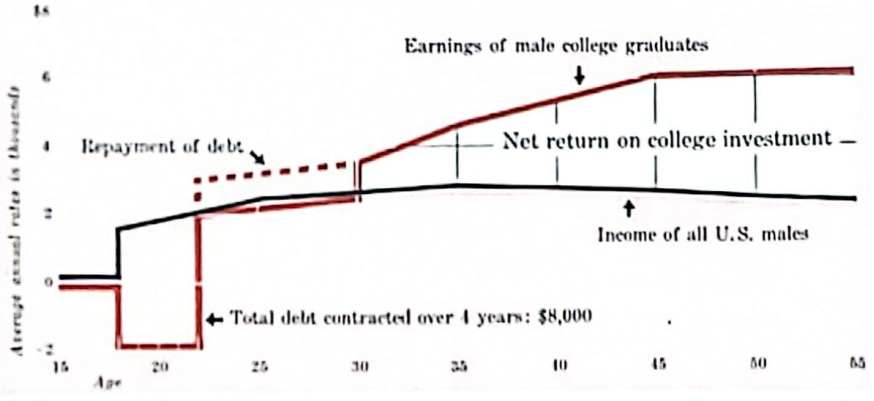
Suppose, on the other hand, that he had invested his original $6,500 in a medical education. According to the Commerce Department, the mean net income of all physicians in 1949 was $11,744 a year. Thus, if he had invested in a medical education, he would have been $3,800 behind the game for the first eight years, and $7,944 ahead for the next forty-two. In other words, the buy would be a good one.

Educational investments in doctors, lawyers, engineers, perhaps even business executives, can—or could be made to—pay off at a substantially higher rate than most manufacturers' investments in new machinery. "Society can and should procure this net addition to its income," says Mr. van den Haag, "as long as there are persons among the unskilled willing and able to acquire skill. Until the net return on educational investment no longer exceeds the net return on other investments, this is warranted."

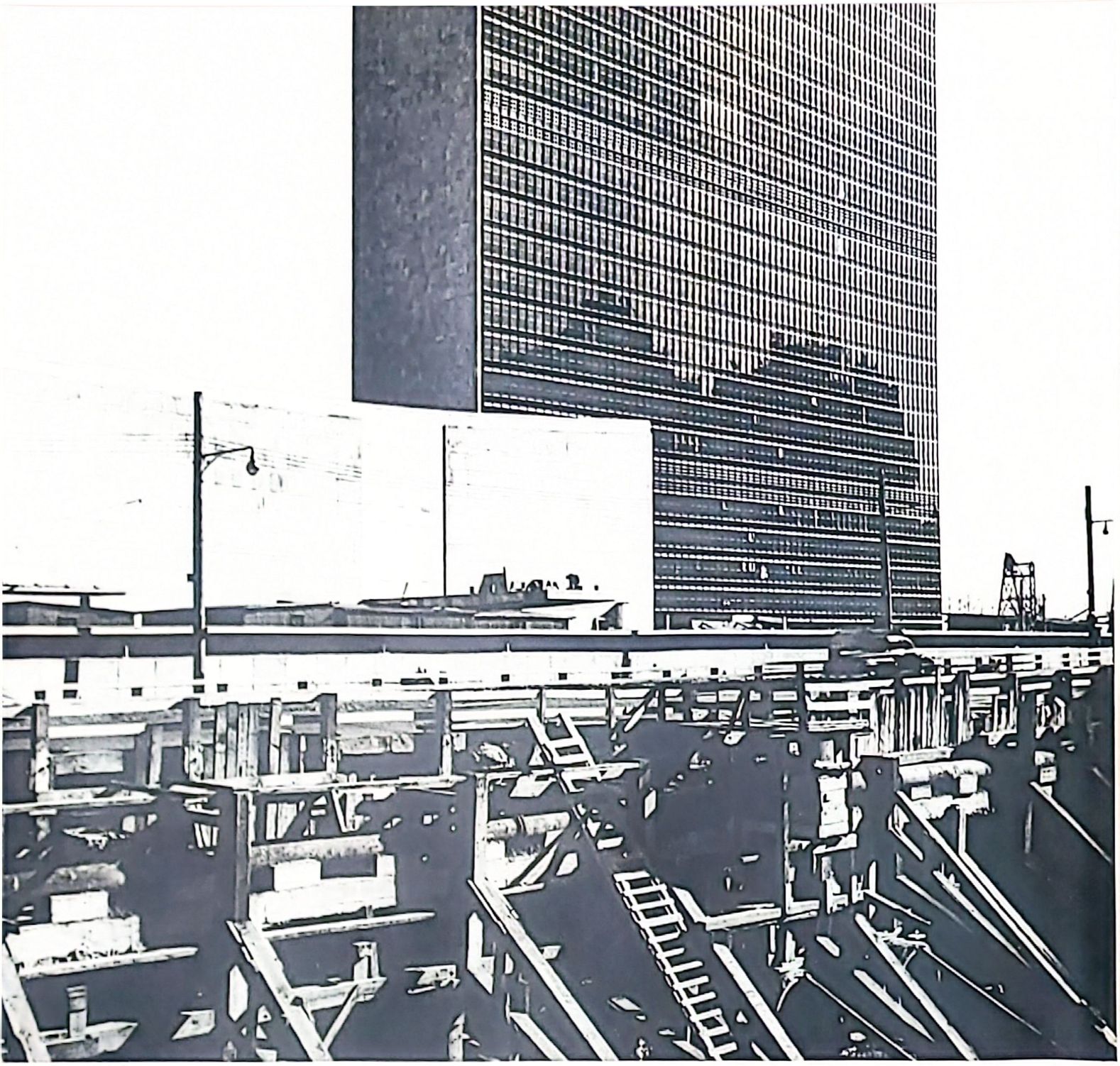
The proposal, then, is to let the market for investment capital determine the number of people to whom we will give these kinds of education. When any of the professional fields became overcrowded, the income of practitioners would drop, and investment would drop along with it. The market would plainly be a more socially desirable determinant of who went to college than mere ability to pay for training; and we would certainly be getting a more effective use of our educational resources.

The student himself, of course, would reap the largest benefit from the proposal; he would be the real investor. But the colleges might also be put on the road to their salvation—or, at least, solvency.

Debt Financing of a College Education



Prospective college students who took advantage of the proposals outlined on this page might have net gains in their lifetime earning capacity even greater than shown here; the figures for all male college graduates (taken from the recently published *They Went to College*, by Havemann and West) are appreciably lower than those for most of the highly skilled professions. The $2,000-a-year cost of education is an arbitrary example and so are the eight years shown here as the repayment period; for students with higher income expectations, a shorter period might be indicated.

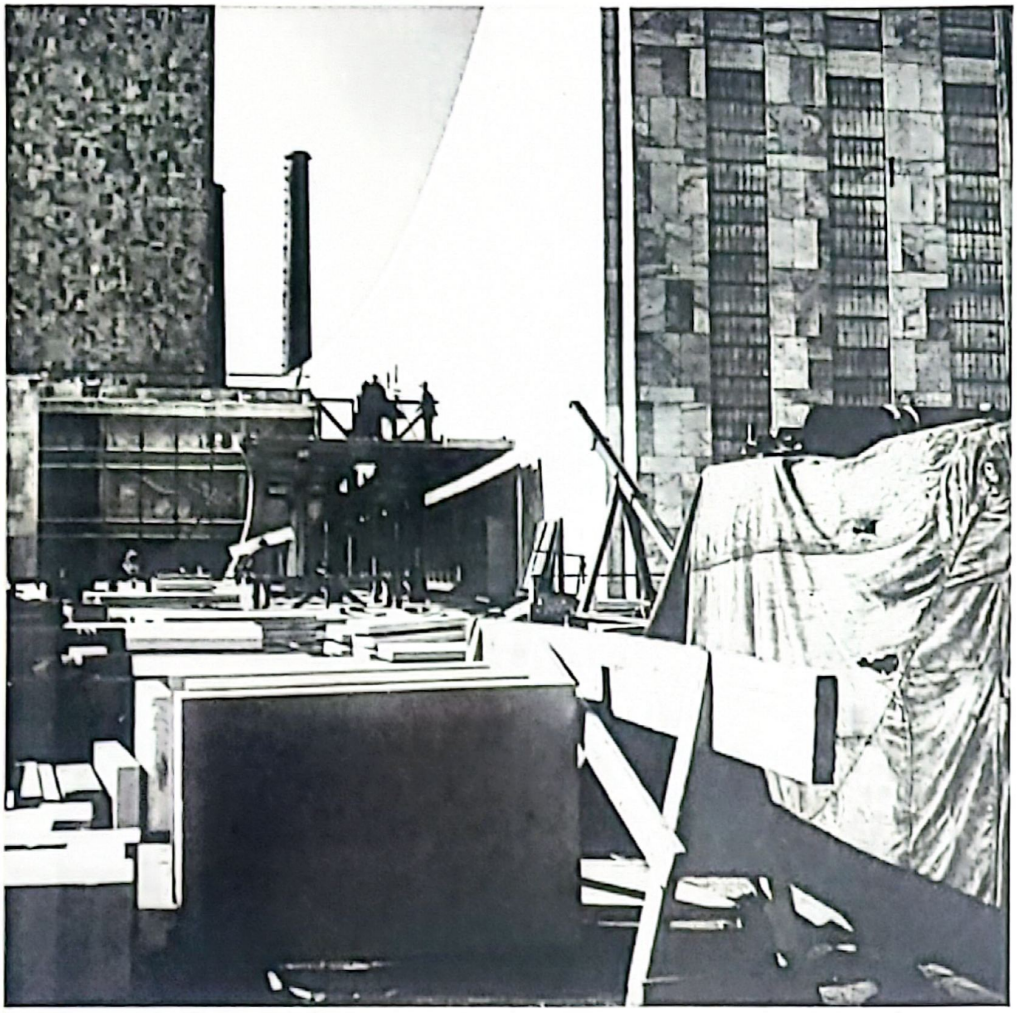


The incomplete Assembly Building and the Secretariat from First Avenue

U.N. CAPITOL

Photographs by Walker Evans

The permanent headquarters of the United Nations, taking shape along New York's East River, is one of the most spectacular building projects in the country. Work in progress includes the General Assembly Building, reorientation of First Avenue underground, and landscaping of the seventeen-acre site. The immense, aspiring unit of modern architecture is transforming Manhattan's midtown façade.

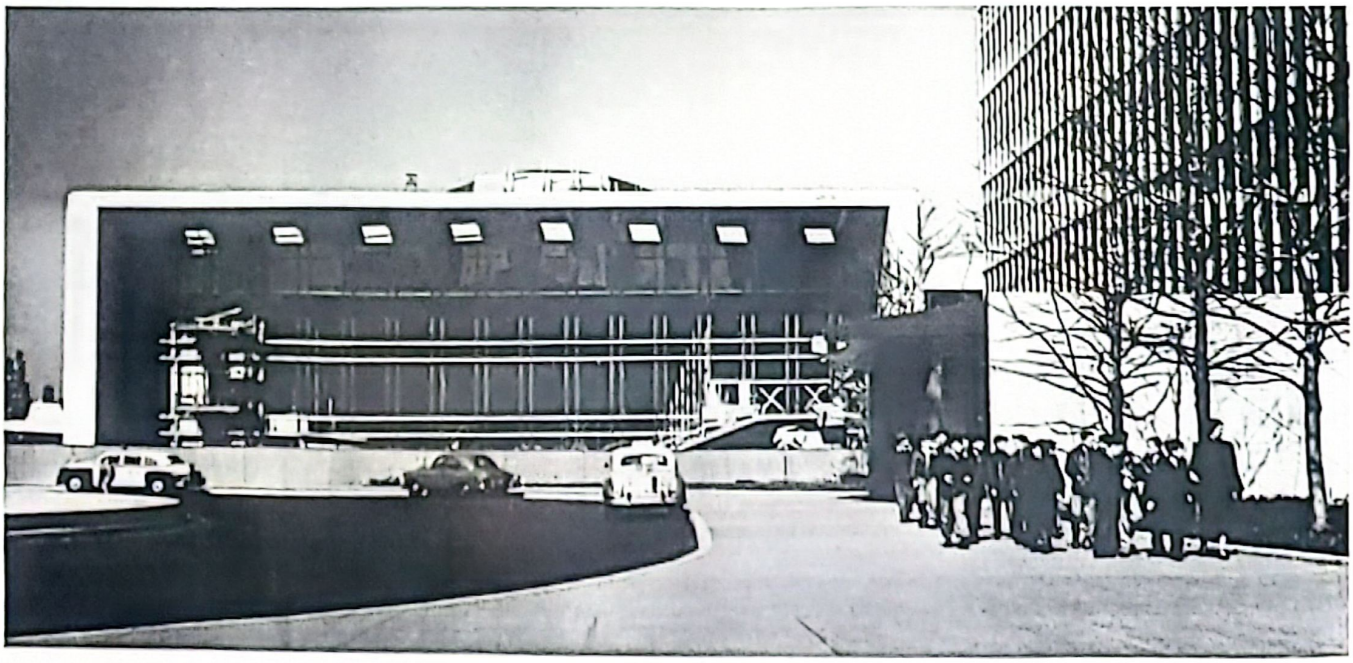


Construction of the sway-backed Assembly will be completed this fall

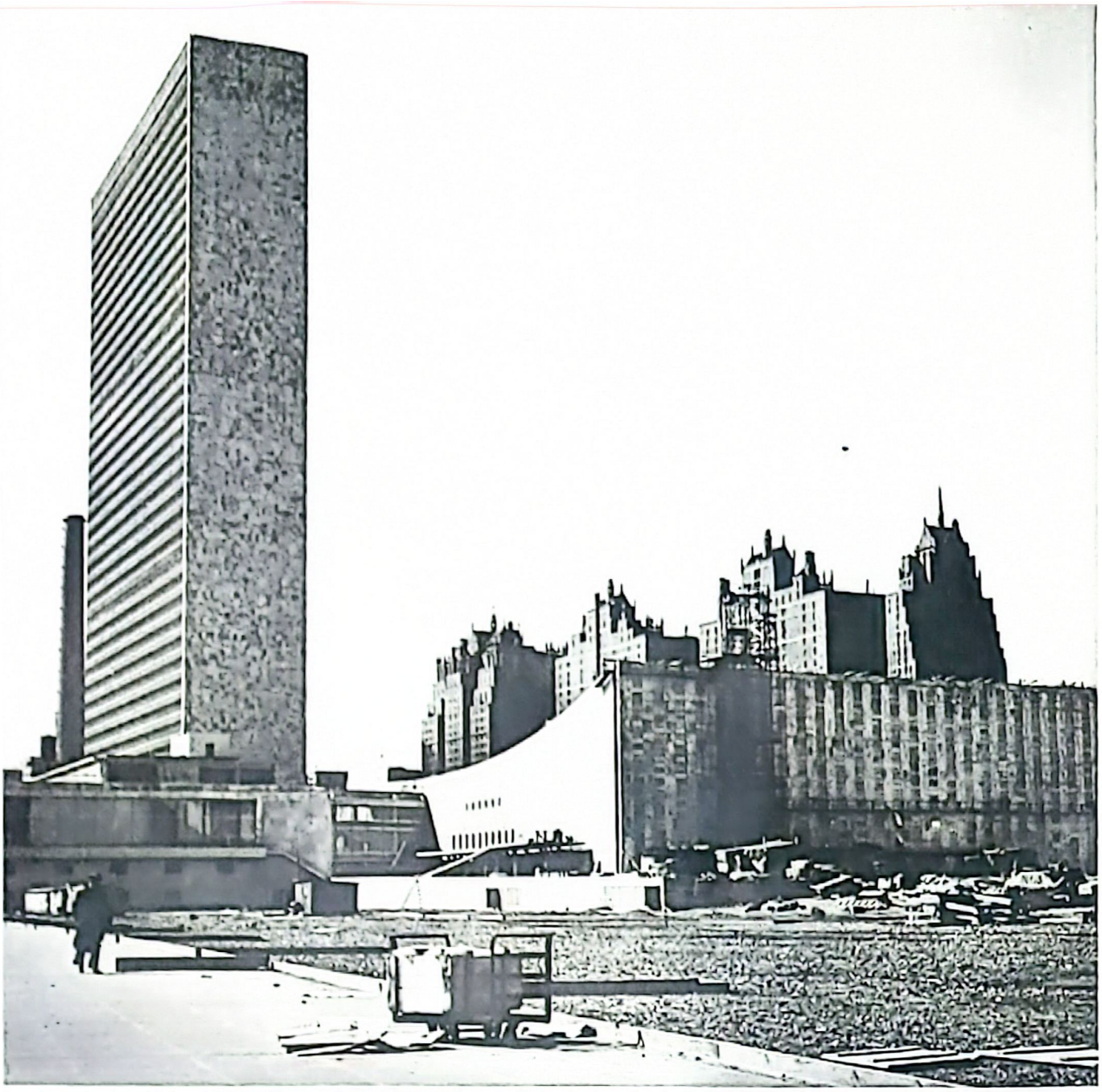
First Avenue goes underground

The marble and green-glass shaft of the Secretariat Building (right) is magnificently pure in form, spectacular in its mirroring of clouds and city spires. Nevertheless, there are critics who consider it a glittering architectural failure. For example, they say, workers often must keep blinds drawn against the sun's glare and heat—in spite of the special heat-absorbing glass and expensive air conditioning.

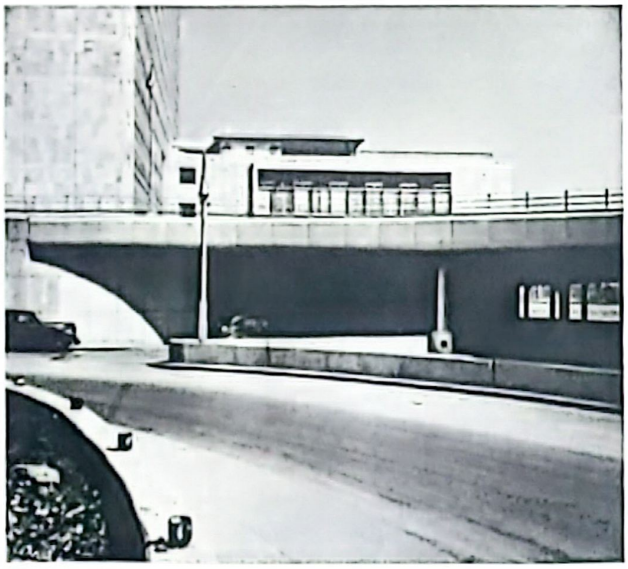
The low-slung Meeting Hall, cantilevered over the East River drive, and the General Assembly with its unexpected dome and curving roof are close against the base of the towering Secretariat, leaving the rest of the site free for park and playground.



Assembly façade on the plaza northwest of the soaring Secretariat



The Meeting Hall is at the foot of the thirty-nine-story Secretariat; General Assembly, right

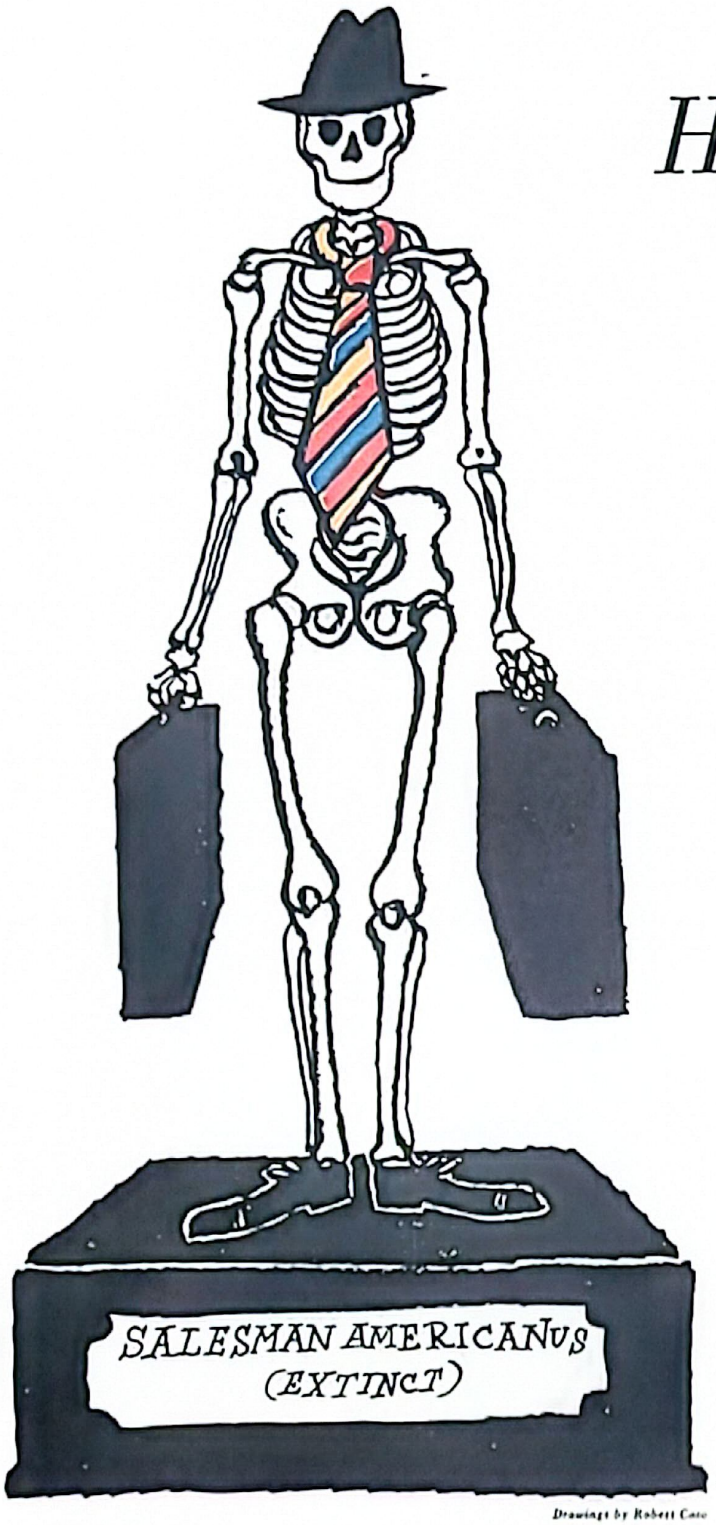


Detail of the intricate road pattern

Flying stairway to Meeting Hall terrace

This article, second in a monthly series, reports upon the changing U.S. salesman—in his relations with his employer, in his compensation, in his attitude toward his job, and in the public attitude toward him.

Help Wanted: Sales



Drawings by Robert Cato

Sixty-five sales executives that FORTUNE interviewed recently had some interesting comments to make on their salesmen. Most of the comments went something like this: "Dammit, they won't work. All they want to think about is what fringe benefits they are going to get" . . . "They are so apathetic they don't even worry about how much they are paid" . . . "Frankly, only one out of twenty-five of my men puts in a fair day's work" . . . "I could double my business if I just had the right men, but these characters I've got now are fat and happy just servicing accounts" . . . "Hell, they go around carrying briefcases like they were wealthy brokers . . . the minute we hit anything remotely resembling a depression, these guys are going to be shattered." In a score of profane variations, the charge is leveled.

As in quality, so in quantity. Not only manufacturers' sales forces—the kind this article will primarily concern itself with—but the entire U.S. sales force has remained so static that the increase in national production has outstripped it three to one. Between 1939 and 1952 the gross national product went from $91 billion to $166 billion (in constant 1939 dollars), or a rise of 83 per cent. Increase in the number of salesmen in the same period: 27 per cent.

What has happened? Why, in the land of his birth, has the Great American Salesman apparently vanished? The most frequently offered explanation is, simply, that times have been so good, salesmen haven't *had* to sell. There is a lot of truth in it. With maddening perversity, since 1929 a series of economic events have conspired to keep the U.S. sales force crippled every time it has been about to reassert itself. The advent of the depression made salesmanship more necessary, perhaps, than ever before, but at the same time it tended to freeze the existing sales force. The premium was now on seniority, and where want ads of the Twenties promised Golconda to all comers, those of the Thirties specified "mature" salesmen, men "with a following," men with "wide contacts in the trade." It was not until the late Thirties that the sales force was once again rejuvenated with new blood.

modern uptown office building was actually made—and quickly rejected.)

The reason for taking seriously the things that Grace might do, any one of which would have been unthinkable ten years ago, is that for more than five years a strong internal force has been doggedly pushing the company toward expanding, and toward modernizing management. That force is thirty-eight-year-old Joseph Peter Grace Jr., president of W. R. Grace and grandson of the founder.

Young man with a mission

As related in the first chapter of this report (FORTUNE, April), Peter Grace has a passion for work that comes close to being an obsession. There may be a complex of reasons for this, but one stands out unmistakably clear. Plainly, Peter Grace feels that work is the only means by which he can gratify his other—and overriding—passion. And that is to see his regime achieve an equal standing in Grace company histories of the future with the regimes of his predecessors, grandfather William Russell Grace, and the potent partnership of father Joseph P. Grace Sr. with D. Stewart Iglehart. Peter is resolved to make his mark alongside his forebears, or bust in the attempt.

Peter Grace has always realized that this would take some doing, and when he was made president of the company in 1945 at the age of thirty-two, the doing looked formidable. For one thing, he was surrounded by a triumvirate of elder statesmen—Chairman Holloway and two vice chairmen—who had been managing Grace affairs since young Peter was playing pat-a-cake. Not until 1949, when the two vice chairmen retired, was Peter able to break really loose, with only Chairman (and cousin) Holloway's watchful eye to reckon with.

Even with some of the restraints removed, Peter, on appraising the huge property he had inherited, felt that he had reason to be uneasy. His first cause for concern was that the business appeared to be in a period of slow motion. There was no program for vigorous expansion, and the nature of the Grace activities, numerous as they were, seemed to preclude any such program in familiar fields. If Grace was to expand, as Peter Grace was determined that it must, the expansion would have to be into totally unfamiliar areas of industry in unfamiliar territory. In the end it was decided to try for a toe hold in the highly profitable U.S. chemical industry. But as Peter says today with an impatient shrug, "Making up your mind to do something is one thing, and doing it is something else."

Since Grace had nobody on its payroll who was expert in the chemical field, a development program required the finding and hiring of people qualified to carry it out. Recruiting was a program in itself, and this was complicated by the fact that when Peter became president there was a shortage of the top executives needed to carry on Grace's normal business. Grace had lost or was about to lose, because of age or illness, about fifteen top men. This attrition might have been normal, just as it might have been normal to have replacements ready to fill the gaps. A fact that cannot be explained away is that Grace did not have the replacements.

Luckily, Peter had a strong second, Andrew B. Shea, first vice president and No. 3 man in the company simply as a result of ability. He is a quiet person who wears rimless glasses and whose grizzled hair was fiery red a few years back. Son of a New York policeman, he put himself through Fordham and Fordham Law School, and came to Grace through the usual door of the mailroom.

Today Shea is many things. He speaks beautiful Spanish, has lived long years in South America, and has the ability—not common—to command the genuine respect of Latins. He knows the Grace part of South America in detail. He knows almost everything about Grace in detail. He is said to be hard as nails in business, and it is also said that he did not give Peter Grace too easy a time during the years Peter worked for him. Today there is obvious mutual respect and a mutual determination to bring in new blood.

Men wanted: hungry

So, after nearly seven years in office, Peter is still recruiting. In hiring the executives of ten or fifteen years from now, Peter's stated policy is to seek brainy, hungry young men, especially from the smaller colleges and technical schools, who are anxious to do two days' work in one, seven days a week. "Take a look at these kids we have with us now," says Peter proudly, "and project them twenty years from now. We really *have* something."

In seeking the full-blown executives he needed immediately to plug holes in top management, Peter decided to hire good businessmen anywhere he could find them, regardless of their particular experience, and regardless of whether or not it was known in advance what spots at Grace they would occupy. This took courage and a willingness to gamble. It took courage to face the resentments and the tensions caused by bringing men in from the outside and putting them in authority over men who had spent long years with Grace. It was necessary to gamble, sometimes expensively, that the newcomers would fit smoothly into a structure as extraordinary and as inbred as the management of Grace. In a few cases the shots were miscalled, but the average was good. The new guard has worked in remarkable harmony with the old, perhaps because the former has trod softly. But the caliber of the new guard is such that its influence must soon be felt, and that influence will inevitably change the character of W. R. Grace.

One of Peter's first discoveries, even before he became president, was a man who was himself to prove an effective recruiter of other new executives. The man is John C. Griswold, who today is a director and vice president (without salary) of W. R. Grace & Co., a director of the Grace National Bank, and president of the Grace-controlled general insurance-brokerage business, Griswold & Co. Grace had had an insurance company for years but it had not amounted to much, and in 1944 Peter Grace decided that something should be done about it. He picked Griswold, a partner in the Chicago insurance-brokerage firm of Fred S. James & Co., and formed Griswold & Co., at an original investment of $50,000. In the beginning the company had only ten employees and billings of less than $1 million. Today there are 150 on the payroll and billings (no business is done with Grace) of $12 million to $15 million. This makes Griswold & Co. small in comparison with insurance giants like Johnson & Higgins, which has ten times Griswold's billings, but Griswold & Co. turns in a tidy return on capital invested. Jack Griswold is a good insurance man, but his real significance in the story of Grace is that as a Grace director and vice president he is as noticeable as a black cat on a snowbank.

Griswold tells it best himself: "I'm out of character at Grace . . . I'm the oddest guy you'll meet in the company. The rest of the Grace officers eat at Room One,

continued page 214

Andrew Shea was Peter Grace's boss in South America, reputedly gave him a rugged time. Now Shea, as first vice president, is Peter's No. 1 man. Among many high responsibilities, he represents Grace as president of Panagra, the airline owned by Grace and Pan American World Airways. That is a hot spot, as the owners are engaged in a seemingly perpetual feud. The story of that battle will comprise the last chapter of the Grace series, in FORTUNE for June.

A portfolio of American merchantmen, painted for FORTUNE *by Lemuel B. Line*

FREIGHTERS AND TANKERS

OF THE U.S. MERCHANT MARINE

The U.S. is not, by inclination, a maritime nation; war and the threat of war have made it one—the greatest in the world. As of March 1, 1952, the American merchant marine consisted of 3,363 vessels, active and inactive, of over 1,000 gross tons. Of the 2,027 active ships, 1,280 were privately owned and operated; 747 were government owned. In the government's reserve fleet were 1,336 inactive ships, laid up in ice-free anchorages from the Hudson River to the Columbia. By a conservative estimate all these ships cost $5 billion to build. Only forty-seven of them are passenger ships; the rest are freighters and tankers whose reason for being is that they can lift cargo and carry it across the oceans. In 1951 they carried some 257 million long tons of cargo out of American ports.

All but one-sixth of this vast cargo lift was made by ships mass-produced during World War II—the Libertys, Victorys, and standard tankers. The war-built ships, now seven to ten years old, have served about half of their useful lives; in another ten to thirteen years they will be obsolescent.

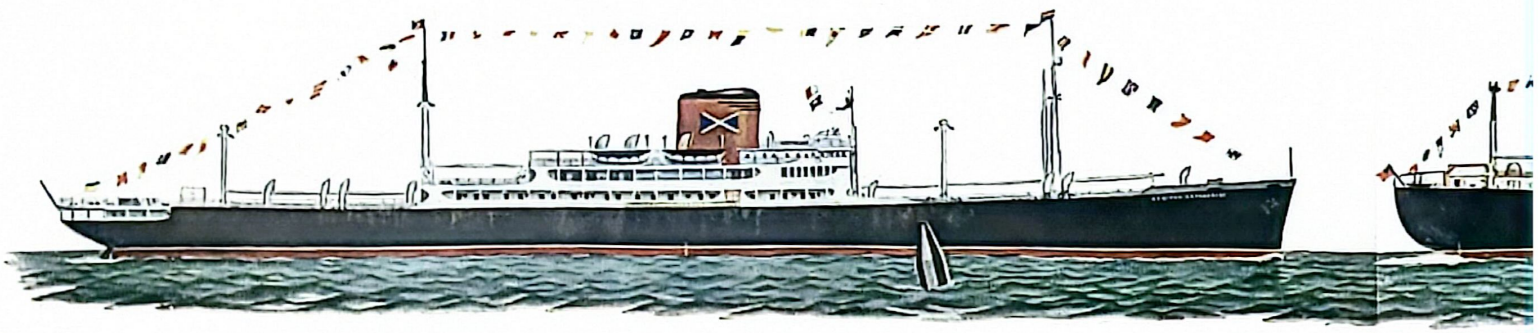
What of their replacement? By tradition, seafarers are slow to accept innovations in the ships they sail; a mistake in judgment can be fatal at sea. But today the trend is toward more complex, larger, and more powerful ships. The government has built two prototypes—SS. *Schuyler Otis Bland* and SS. *Keystone Mariner* (pictured in portfolio). Although the former has not been an unqualified success, the shipping fraternity expects the latter to prove herself the best freighter afloat. Other new cargo ships slowly coming out of the yards, and privately designed vessels built for such specific jobs as carrying lumber or freight trains, indicate that American technological advance is not limited to the land. The new ships are, without exception, faster than the old: speeds of twenty knots are extraordinary in any cargo vessel, but the SS. *Keystone Mariner* can make twenty knots and more. Tankers of 45,400-ton capacity—compared to the wartime tanker's capacity of 16,600 tons—are being built. Three 30,000-ton tankers are in service; superheated steam drives their turbines.

The modern freighters have outsize hatches that make cargo working faster, and there are such refinements as folding steel hatches that open and close mechanically and do not need to be battened down; there are 100 or more electric auxiliary motors to a ship, and fully revolving, hydraulically powered, high-speed level-luffing kingpost cranes that can swing a sling of cargo into any corner of a hold. Radar and loran are standard equipment, although the captain can still embarrass the new third officer by asking him for a "fix" on an overcast day.

Wages for the able-bodied seaman have risen in the last twenty years from $60 a month to $270, with a work week of forty hours, time and a half for overtime, and a bonus for sailing in mine-infested waters. A British seaman gets $60 a month. Not only are American seamen the best paid and the best fed—chicken and ice cream every Sunday are routine—but their quarters are the most comfortable. In the new dry-cargo ships no more than two men to a cabin is the rule, with a locker of at least eighteen cubic feet for each man; bunks must be thirty-two inches wide, instead of the traditional twenty-four inches. The glory hole has all but vanished; present-day crews live amidships, where they are not disturbed by the vibration of the screw. The ships they sail are built to the highest safety standard in the world: their construction, since 1936, has been of fireproof steel throughout.

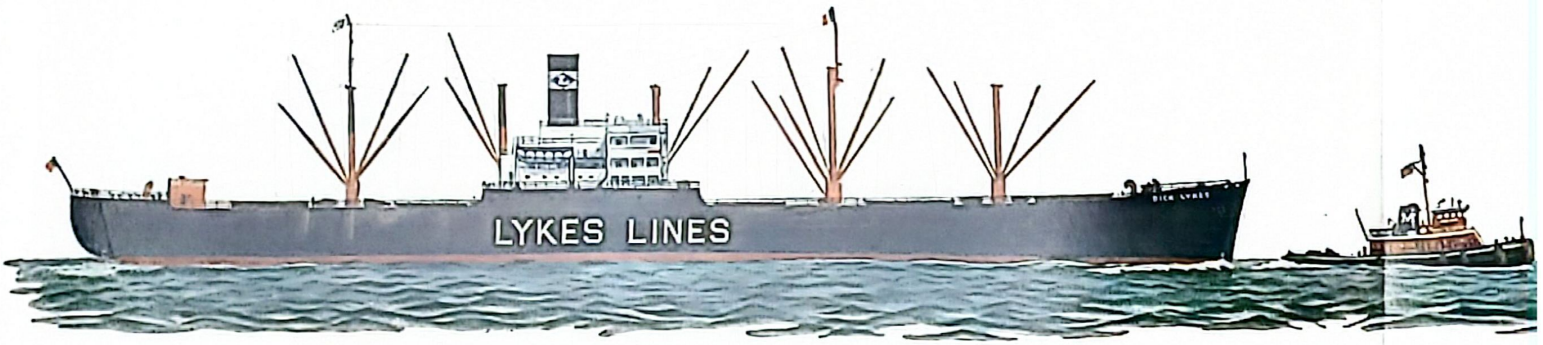
In this portfolio are examples of the major types of American seagoing merchantmen and of the latest special-design vessels. They have been painted in scale, from blueprints, with a maximum of precision and a minimum of artistic license. All the ships are shown riding at the same depth; most of them would, in reality, be riding lower, their holds full of cargo. To add variety to the paintings their booms in some instances are shown raised, although no well-ordered ship puts out to sea with her booms up; their rigging has been simplified; the tugs are not servicing the freighters—they are simply a part of harbor traffic.

Here, then, are the merchantmen in all their color and variety, some slow and bluff-bowed, others fast and streamlined, but each with her personality, purposeful, built for work in the carrying trade.



TYPE: C3 (MODIFIED)
TONNAGE: 8,602*
SPEED: 17 KNOTS

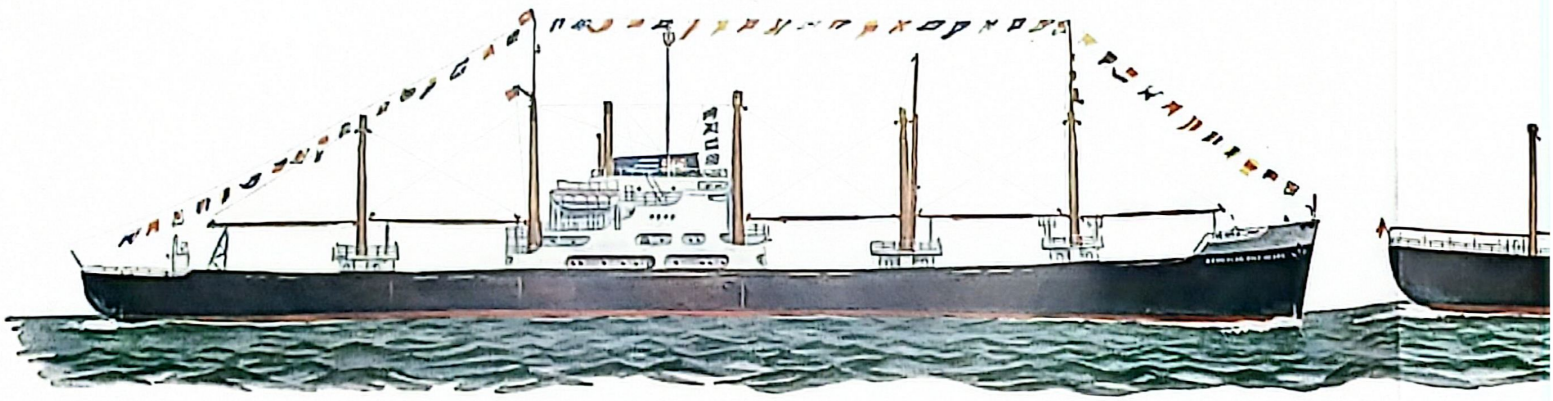
Farrell Lines' SS. African Enterprise, *a rakish-looking cargo-passenger vessel, carries eighty passengers and general cargo between New York and South African ports. Her usual round trip takes about two months.*



C2-S-AJ1
10,660
15½ KNOTS

SS. Dick Lykes *sails between U.S. Gulf and European ports with general cargo. Her owners have a total of fifty-four freighters in service on scheduled runs to Europe, Africa, South America, the West Indies, and the Far East.*

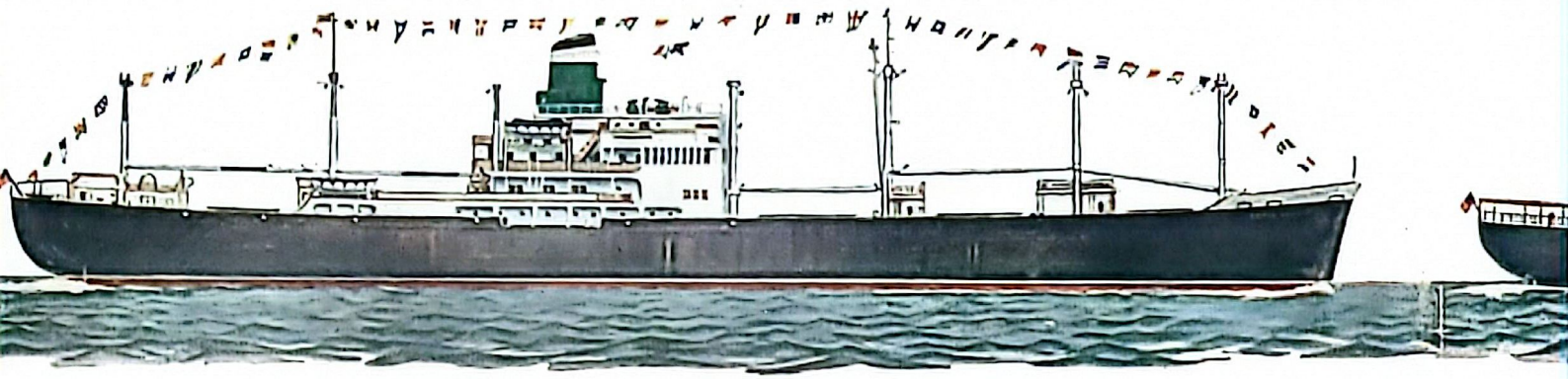
A familiar sight in New York Harbor—one of the Moran fleet of diesel-electric tugs. Horsepower: 1,750.



C3-S-DX1
10,516
18½ KNOTS

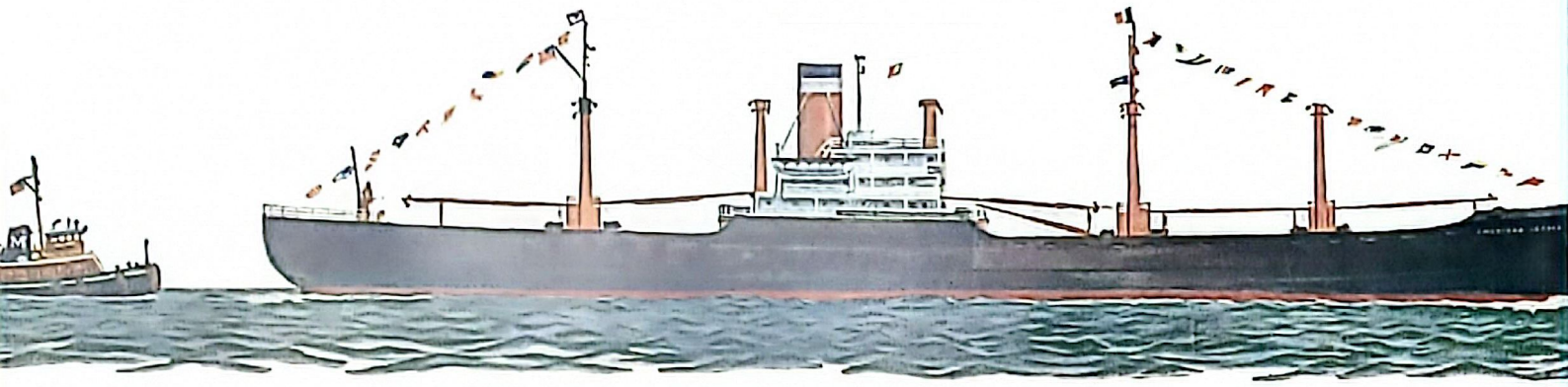
SS. Schuyler Otis Bland, *a unique experimental type launched in 1951, was built for the Maritime Administration, is now under charter to American President Lines. She has two kingpost-like stacks abaft her dummy stack.*

*All tonnage figures denote deadweight tons



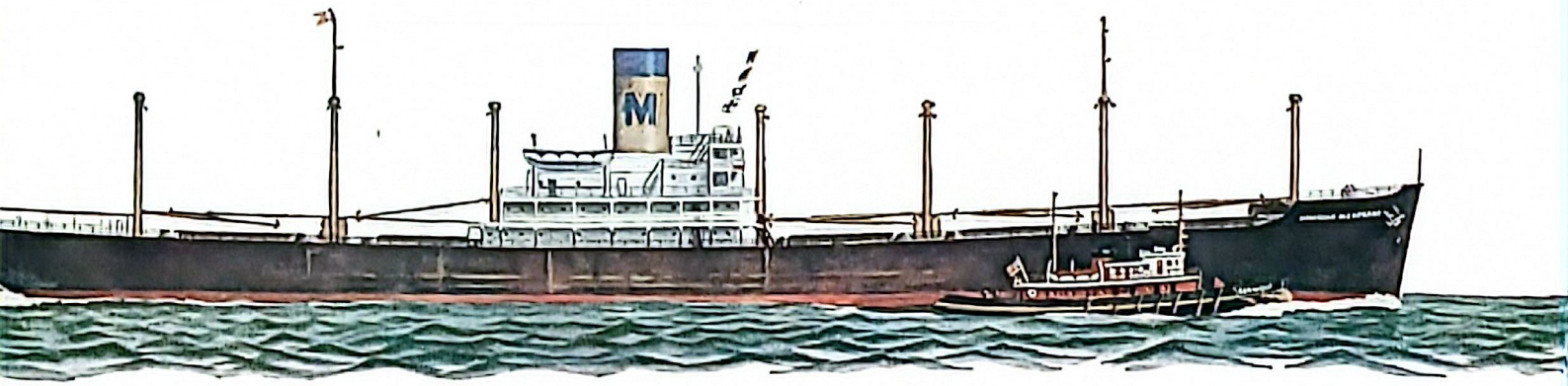
C2-S1-AJ4
9,512
16 KNOTS

SS. Santa Cecilia *is one of nine new cargo-passenger ships of the Grace Line. Built for service on the New York–South American North and West coasts route, her accommodations for fifty-two passengers are air conditioned for comfort in the tropics. About one-third of her cargo space is refrigerated.*



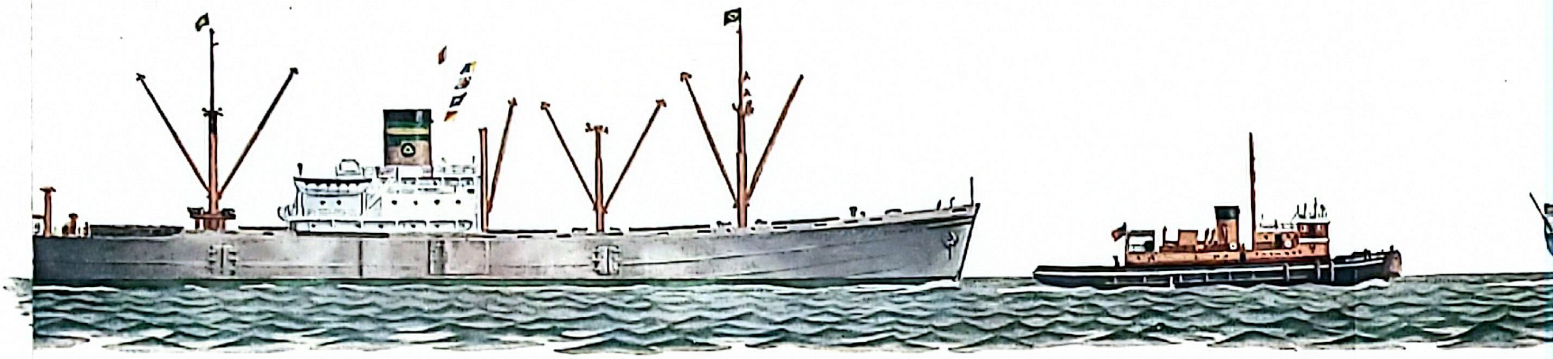
C2-S-B1
10,032
16 KNOTS

One of United States Lines' forty-six freighters in world trade—
SS. American Leader. *She works in the Western Ocean (transatlantic) service out of New York.*



C3-S-A2
12,177
16½ KNOTS

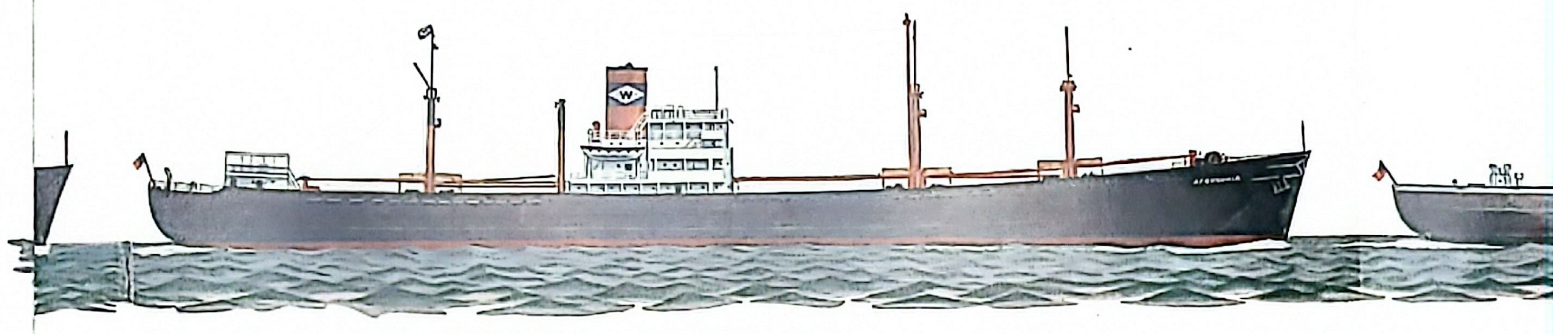
A Matson Line freighter, SS. Hawaiian Merchant, *equipped especially for the San Francisco–Hawaiian trade, has tanks for molasses and refrigerated cargo space for frozen pineapple. A "Red Stack" San Francisco tug is off her bow.*



C1-A
7,708
14 KNOTS

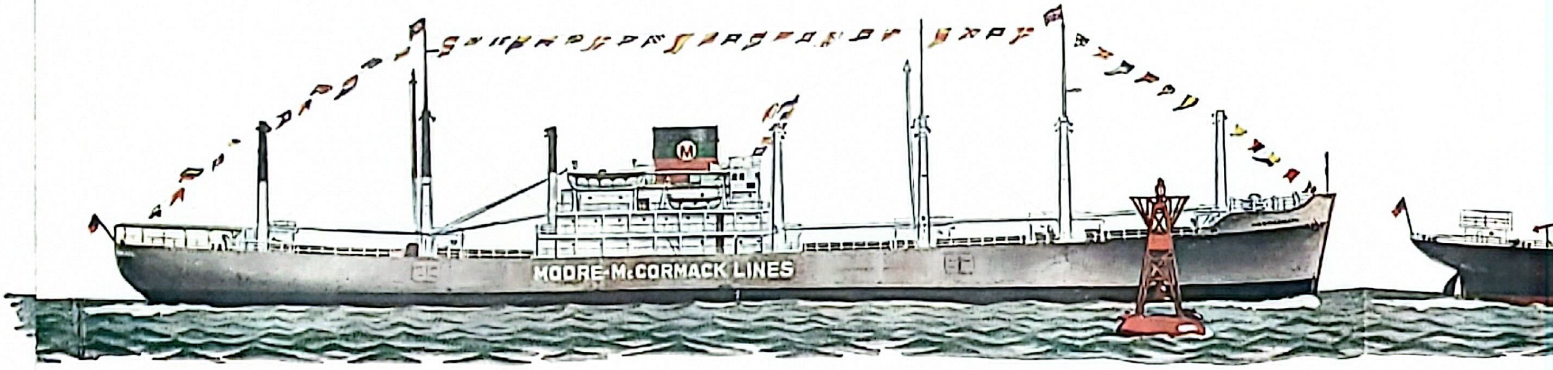
The war-built (1944) SS. Del Monte, *of Delta Line, is one of the smallest standard ocean-going freighters—412 feet length overall. Like a great many American freighters, she has accommodations for twelve passengers. She is in service in the U.S. Gulf and South American East Coast trade.*

An ocean-going, 149-foot steam tug, working out of New Orleans, owned by Crescent Towing & Salvage Co.



C2-S-E1
10,672
15½ KNOTS

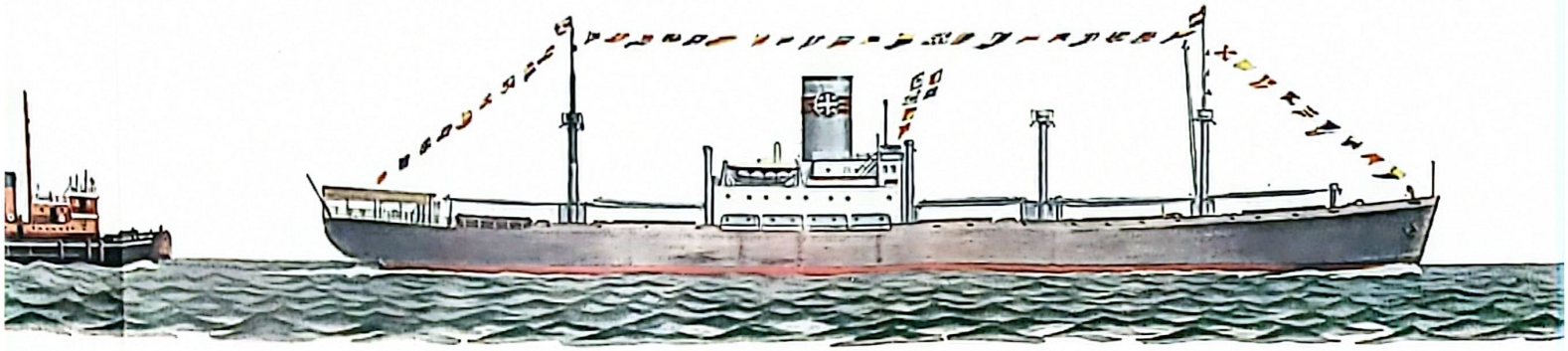
SS. Afoundria, *home port Mobile, is one of twenty-six sister ships built for Waterman Steamship Corp. by its subsidiary, Gulf Shipbuilding Corp. They serve in worldwide as well as in intercoastal and coastwise trade.*



C3-S-A5
11,600
17½ KNOTS

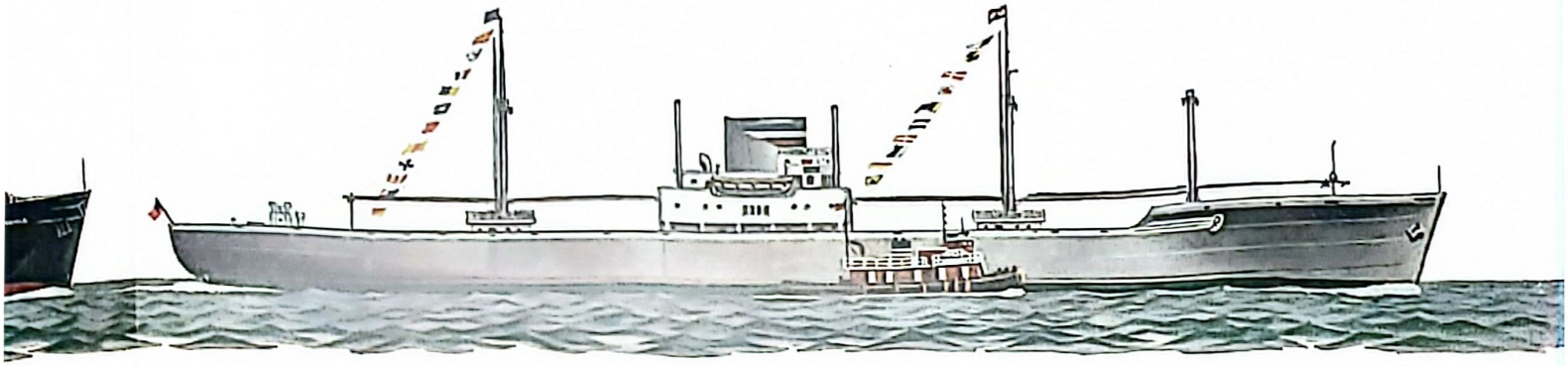
SS. Mormacmail *is one of Moore-McCormack Lines' seven fast new freighters. She and her sister ships are in service between U.S., Scandinavian, and South American ports.*

t steam
Orleans,
wing &



C1-B
9,524
14½ KNOTS

SS. Alcoa Partner, *a war-built freighter, works between North and South American and Caribbean ports, carrying bauxite and general cargo. She is manned by a crew of forty-nine to fifty-two, about average for a ship of her tonnage.*

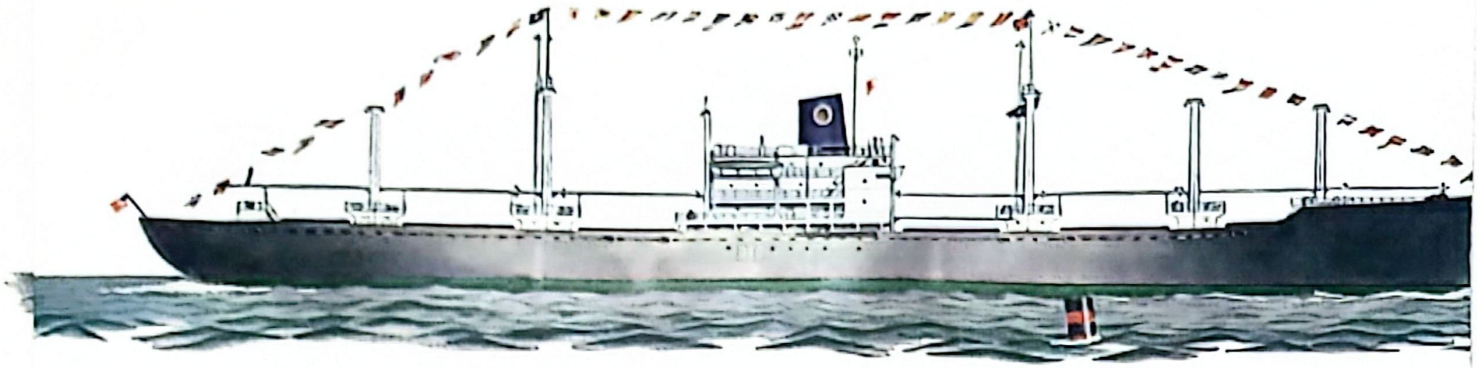


C2-S
11,000
16 KNOTS

One of the handsomest freighters afloat, SS. Robin Locksley, *built in 1941, was designed by George G. Sharp for the South and East African routes. She is one of six sister ships of Robin Line. A McAllister harbor tug is in the foreground.*

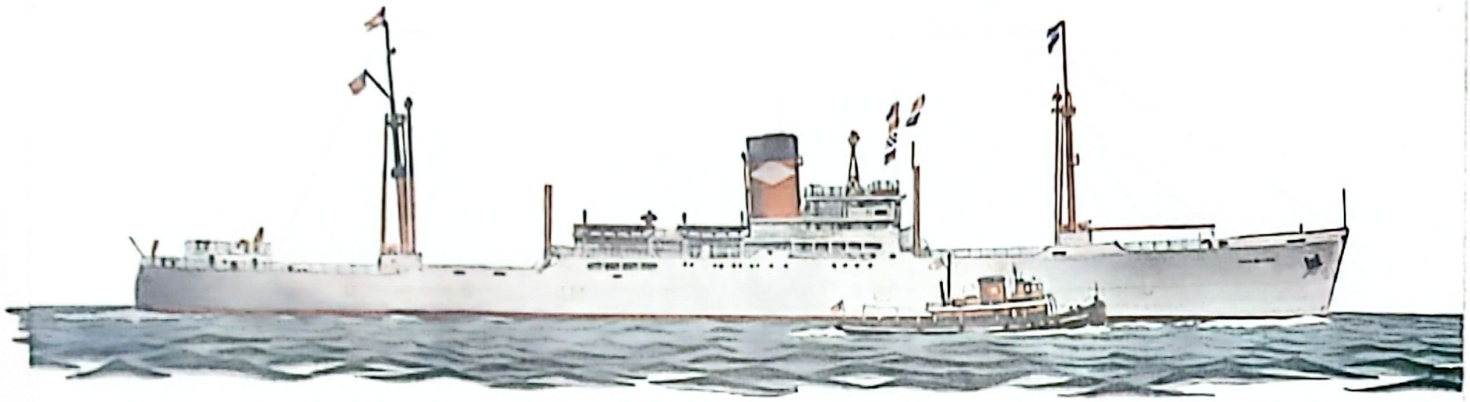
"EXPORTER"
9,644
16½ KNOTS

A freighter in the New York–Mediterranean and Indian Ocean service, SS. Exbrook *has seven holds, four equipped with humidity controls. Built to carry extremely heavy loads, she can handle a thirty-ton locomotive with her cargo booms.*



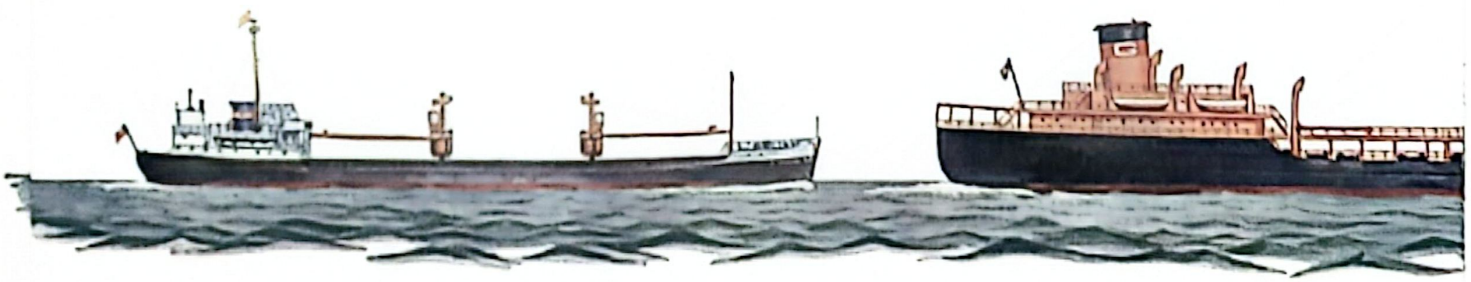
C4-S-1A
12,910
20 KNOTS

SS. Keystone Mariner, *launched February 29, 1952, is the first of thirty-five government-designed* Mariner *class merchantmen. She has a helicopter platform for use in anti-submarine warfare, is fast enough to travel out of convoy, and can be mass produced. She requires no conversion for peacetime use.*



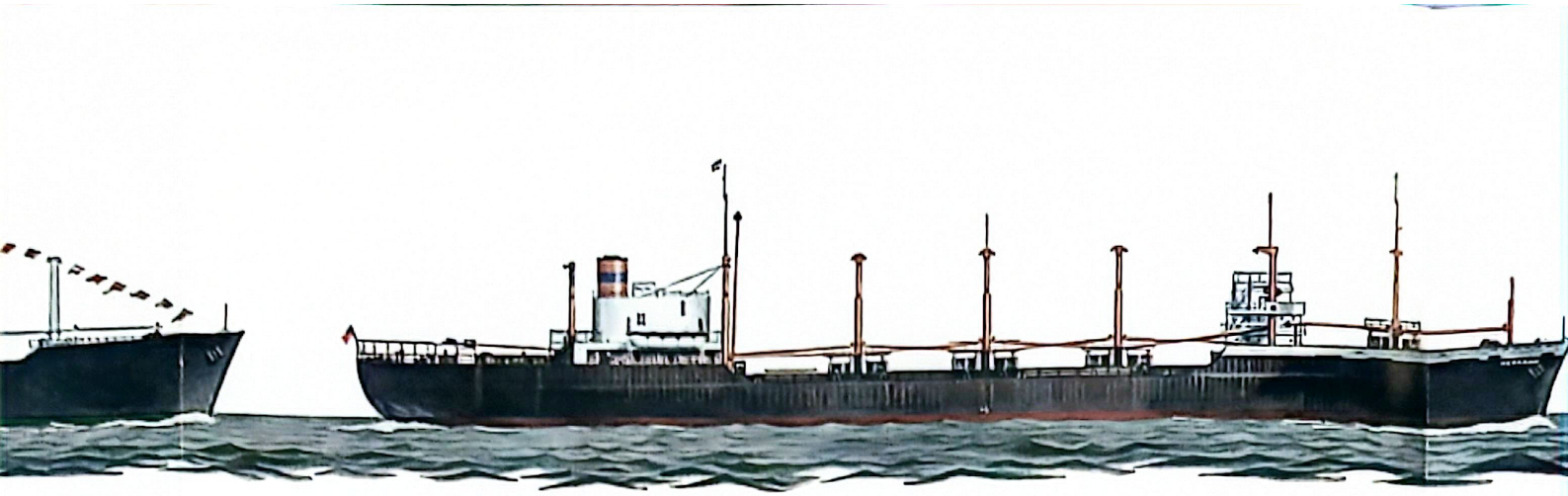
R2-S1-AU1
7,005
18½ KNOTS

One of United Fruit Co.'s "Great White Fleet," the refrigerator ship SS. Parismina, *with a refrigerated capacity of 309,600 cubic feet, is in the U.S.-Latin-American service. She can carry 80,000 stems of bananas. The New York Harbor diesel-electric tug, 100 feet over-all, is one of Dalzell Towing Co.'s fleet.*



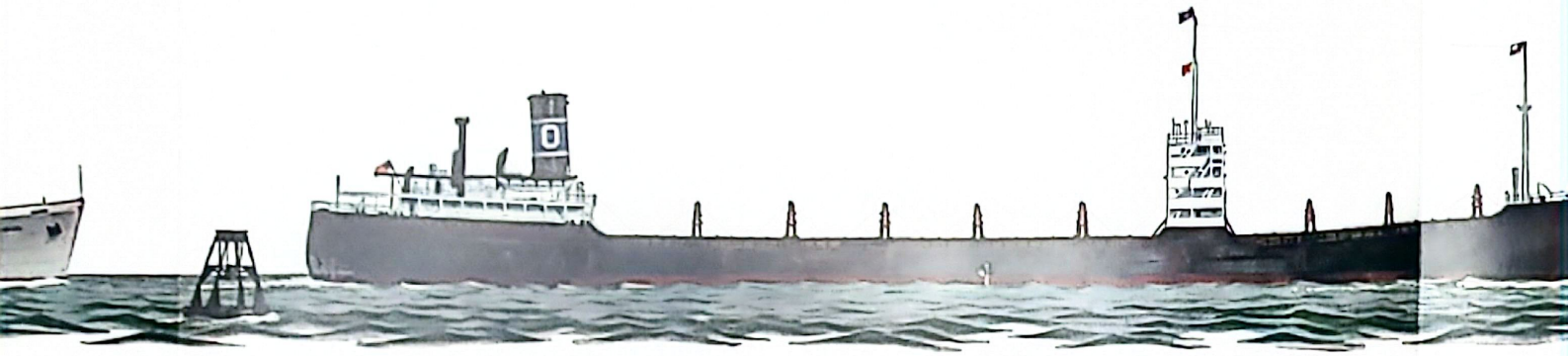
CONVERTED N3-M-A1
3,936
10½ KNOTS

A new coastal lumber carrier, M/S C-Trader, *owned by W. R. Chamberlin & Co., San Francisco, has hydraulically powered cranes that can load nearly two million board feet of packaged lumber in twenty hours.*



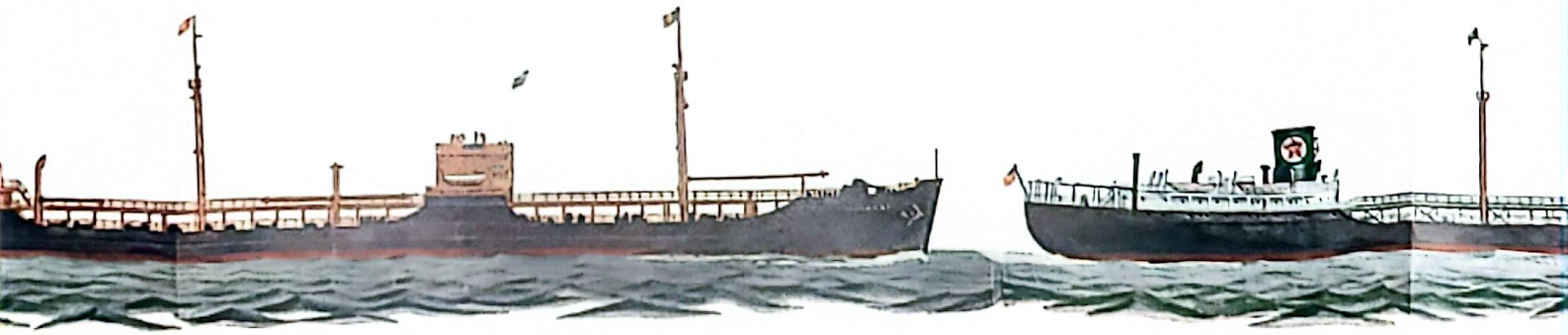
C4-S-A4
14,860
17 KNOTS

One of five ships designed for American-Hawaiian Steamship Co.'s intercoastal trade, all now chartered to the Military Sea Transportation Service, SS. Nevadan *carries her stack well aft, has a large sweep of deck that enables her to carry bulky deck cargoes, such as lumber and trucks.*



PRIVATE DESIGN
24,000
17 KNOTS

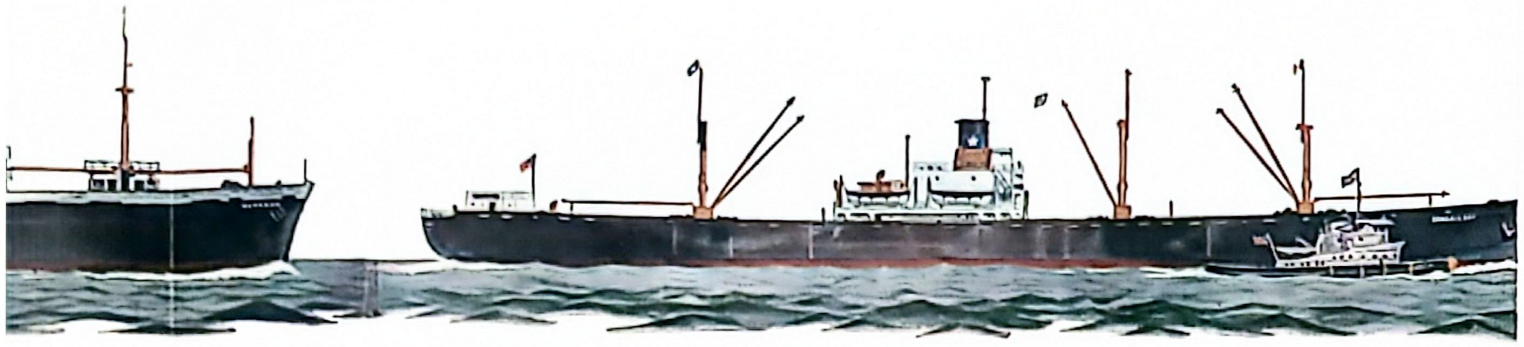
This collier of Ore Steamship Corp. (Bethlehem Steel Corp.), built in 1947, is driven by three steam turbines. She and her seven sister ships carry iron ore from Chile to Baltimore.



T2-SE-A1
16,607
14½ KNOTS

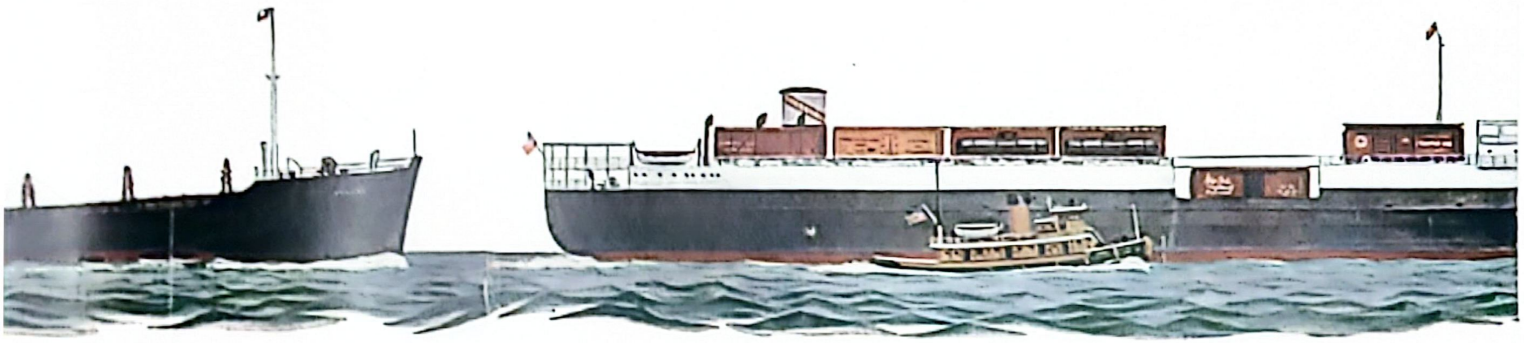
SS. Gulfray *(Gulf Oil Corp.) can carry 138,335 barrels of light oil or gasoline in her tanks. She is one of 481 of a class of standard ocean-going tankers built during World War II.*

PR



EC2-S-C1
10,851
11 KNOTS

A Liberty ship of Orion Steamship & Trading Co., SS. Seagallant *is one of the "ugly ducklings" of which 2,580 were built during World War II. The type was adapted for mass production from a standard British tramp design. The harbor tug in foreground is one of the Curtis Bay Towing Co.'s fleet.*

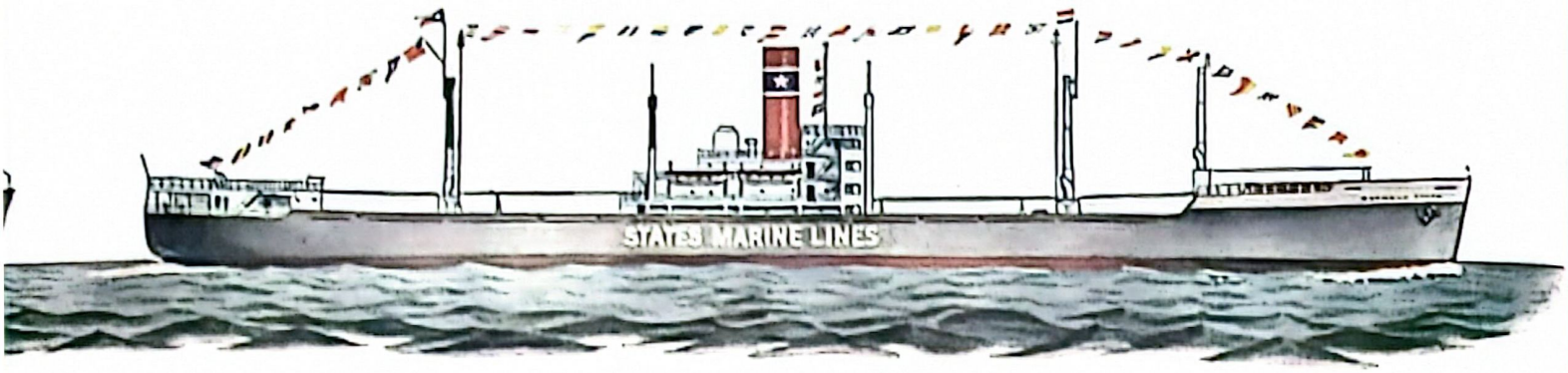


SEATRAIN
12,430
16 KNOTS

Seatrain Louisiana, *a $4-million ocean-going vessel of Seatrain Lines, Inc., works in the Atlantic and Gulf coastwise trade. She has a mile of standard-gauge track on deck and in her hold, can carry 100 fully loaded freight cars. The tug belongs to Meseck Towing Lines, Inc., of New York.*

PRIVATE DESIGN
14,140
16 KNOTS

SS. Delaware *is one of five coastal tankers of the* Colorado *class designed for the Texas Co. Three others were lost in World War II. She has a capacity of 107,147 barrels, can carry up to twenty varieties of petroleum products in her tanks.*

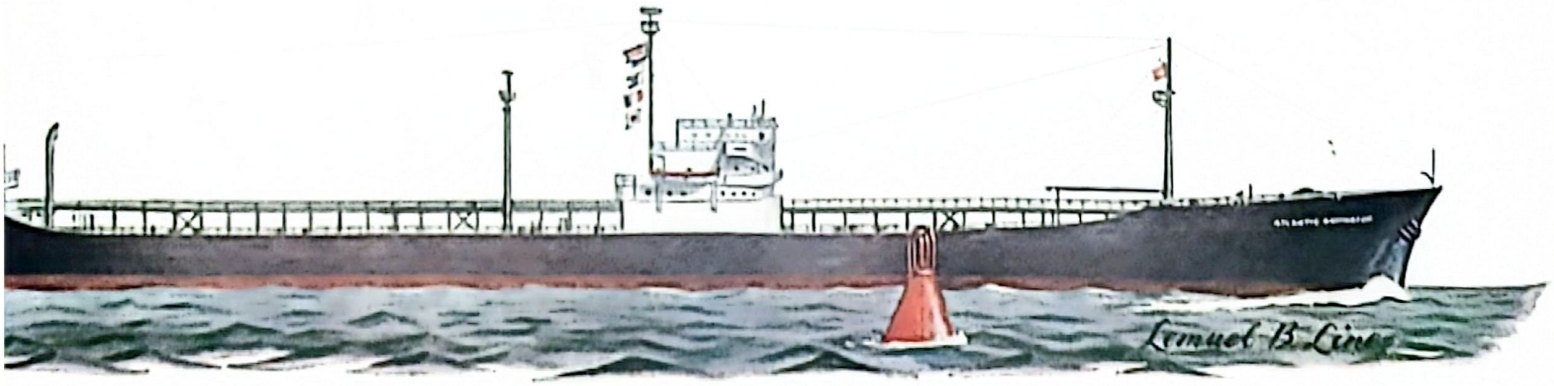


VC2-S-AP3
10,595
17 KNOTS

A Victory class ship, like SS. Buckeye State, *is three to six knots faster than the Libertys, but carries about the same amount of cargo. Geared turbines, instead of the Libertys' reciprocating steam engines, furnish the propulsion. Under U.S. registry there are now 281 of the 415 Victorys built during World War II.*

C1-M-AV1
6,023
12 KNOTS

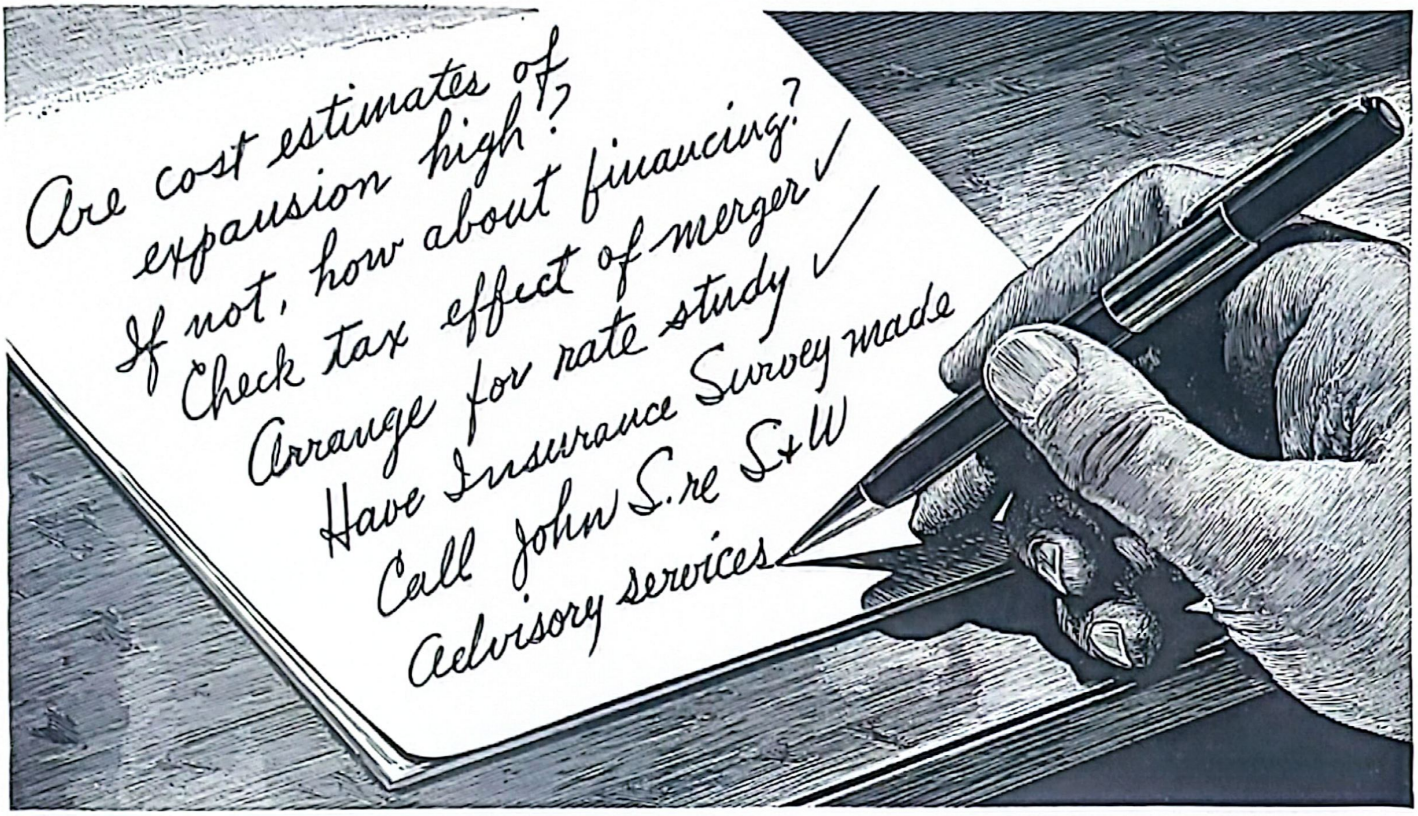
M/S Coastal Rambler, *a standard, small coastal freighter chartered from the government and operated by Alaska Steamship Co., works between West Coast and Alaskan ports.*



PRIVATE DESIGN
30,155
18 KNOTS

This big, new tanker, SS. Atlantic Navigator, *one of three sister ships leased by Atlantic Refining Co., carries 225,000 barrels of crude oil. Her pumps, rated at 20,000 barrels an hour, can unload her in twelve hours.*

Is *yours* a Management Problem?


Are cost estimates of expansion high?
If not, how about financing?
Check tax effect of merger ✓
Arrange for rate study ✓
Have Insurance Survey made
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*Names on request

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THE SACRAMENTO HEARTLAND
California
SUN AND WATER BLESSED WITH ROOM TO GROW

The Dow Expansion cont.

such a continuing growth curve that Dow has decided to enter the field itself.

Magnesium has not had anything like the growth of plastics, but, with defense again pushing annual U.S. production up to some 130,000 tons, of which about half is under Dow's operation, it is riding a boom of its own. Dow is outfitting a new $40-million magnesium-fabrication plant at Madison, Illinois, which will contain the first large-scale sheet mill in magnesium, a project feasible only with the expectation of heavy volume. And, in fact, magnesium has come to a major turning point in fabrication, particularly in growth of wrought products, and in acceptance. But it has had a rough time. Contrary to starry predictions, the end of the last war shut magnesium down cold. So much war-surplus scrap overhung the market at 3 cents a pound that it was 1947 before most of it was worked off, and when the market revived, only Dow came back into ingot production.

From 1947 to 1950, however, magnesium steadily climbed—in aircraft, aluminum alloys, automobile parts, rust-preventive anodes, chemical processes, portable tools, trucks and trailers—and any war now, Dow thinks, would see it far exceed the peak of World War II, while civilian uses are expanding so rapidly that there is substantial growth ahead.

The present situation

There will be more departments, like magnesium and plastics, set up on a product basis at Dow sometime in the future. Industrial chemicals are a natural, which management is eying, but they will not be so easy to separate out as plastics. Doan likes that kind of setup because it gets better coordination between plants.

Up until three years ago there was no formal coordination of plant production at the top, and this is another instance in which the Dow organization is being pulled together to fit its new scale of operations. Ironically, it was the necessity to allocate extremely tight chlorine—*the* Dow raw material, supplied almost like power to nearly all plant groups—that hastened this move. Benzene was also short, forcing Dow to scour Europe for supplies. (Benzene is the only one of its basic raw materials that Dow doesn't make, being a byproduct of coke-oven operations or, more recently, petrochemicals. To ensure vital future supplies, Dow has made long-term commitments for high-priced benzene from

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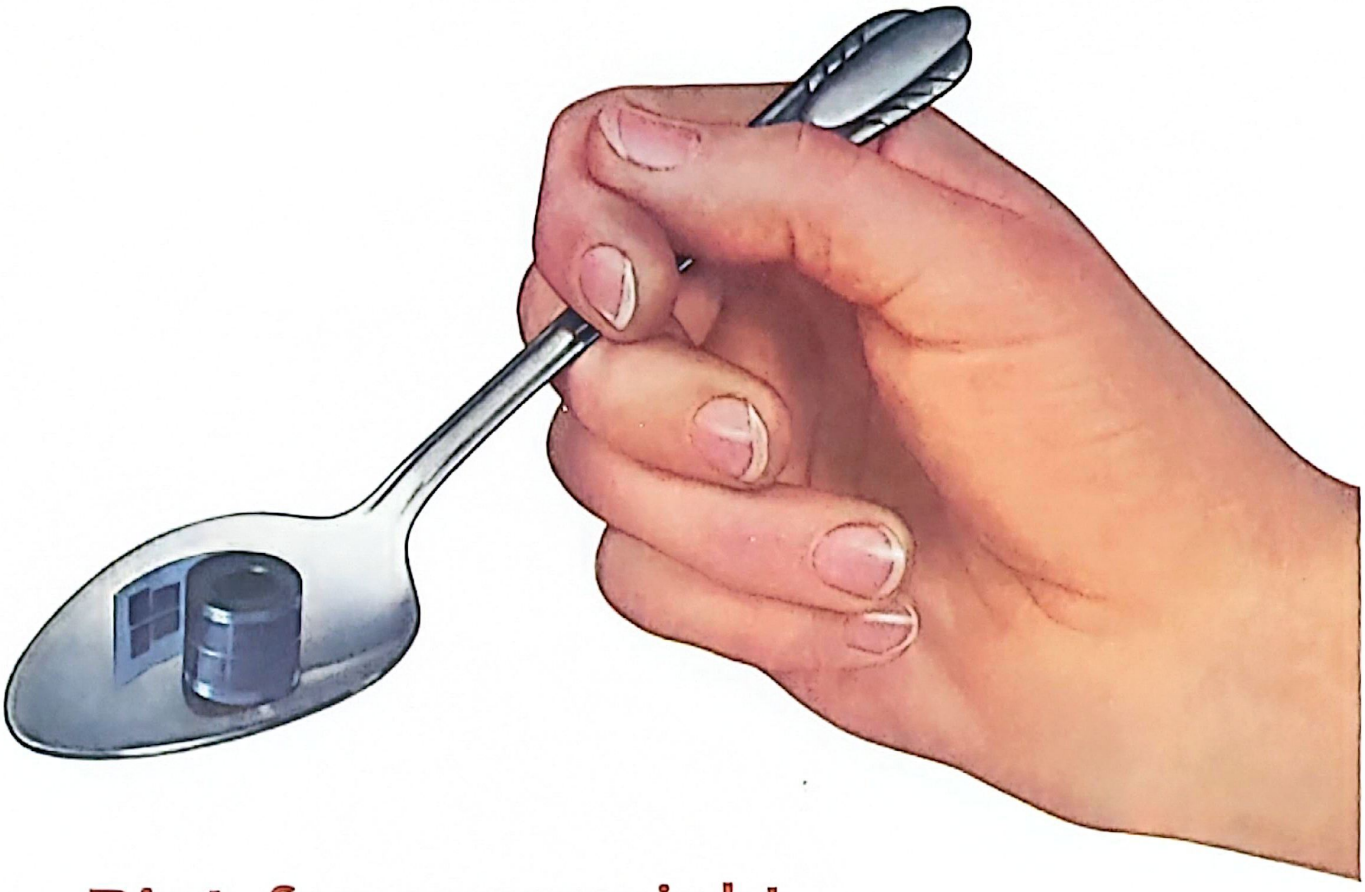
Dow in Midland, U.S.A.

Midland, Michigan (population, 14,000), 120 miles northwest of Detroit, is as intimate a part of Dow Chemical's composition as chlorine. One interpenetrates the other. The barber down the short main street from the big main office and plant is nearly as much an employee of Dow as the 9,200 who daily punch in from the Midland area. The Dows were by conviction teetotalers, and the town for years has been dry by local option. The architecture is dominated, particularly in the higher brackets, by the low, rambling, modernistic houses of Alden B. Dow, though there is still a lot of rugged midwestern traditionalism. Dow's assistant general counsel is mayor, and all five city councilmen are Dow men.

Conscious of its position in a one-industry town, Dow has always encouraged civic-mindedness. Wives and executives attend a dizzying round of community committee meetings. Dow supports a large community music center, with a symphony orchestra and a big male chorus that early this spring was sent on tour to Tulsa and the Texas division. And almost in scale with Dow's own expansion is the postwar building of churches in Midland. Six new ones have gone up or are in construction, two (Episcopal and Methodist) designed by Alden Dow, another a great, brick Presbyterian edifice for which Dow's Dr. C. J. Strosacker is putting up $1,300,000.

There are two perennial issues and topics of conversation in Midland, aside from the interplay of relationships in Dow. One is the question of installing a bar in the Midland Country Club, supported heavily by Dow patronage, an issue that periodically comes up for debate and periodically is voted down. The second topic is transportation in and out of Midland, recently titillated by the New York Central's inauguration of once-a-day service by a single-coach, streamlined diesel called the *Beeliner*, which takes close to four hours to and from Detroit, and which is so unfamiliar a sight to Midlanders that there have been a number of bad crossing accidents.



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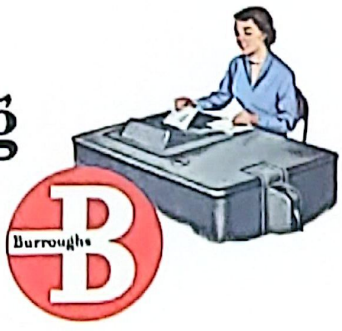

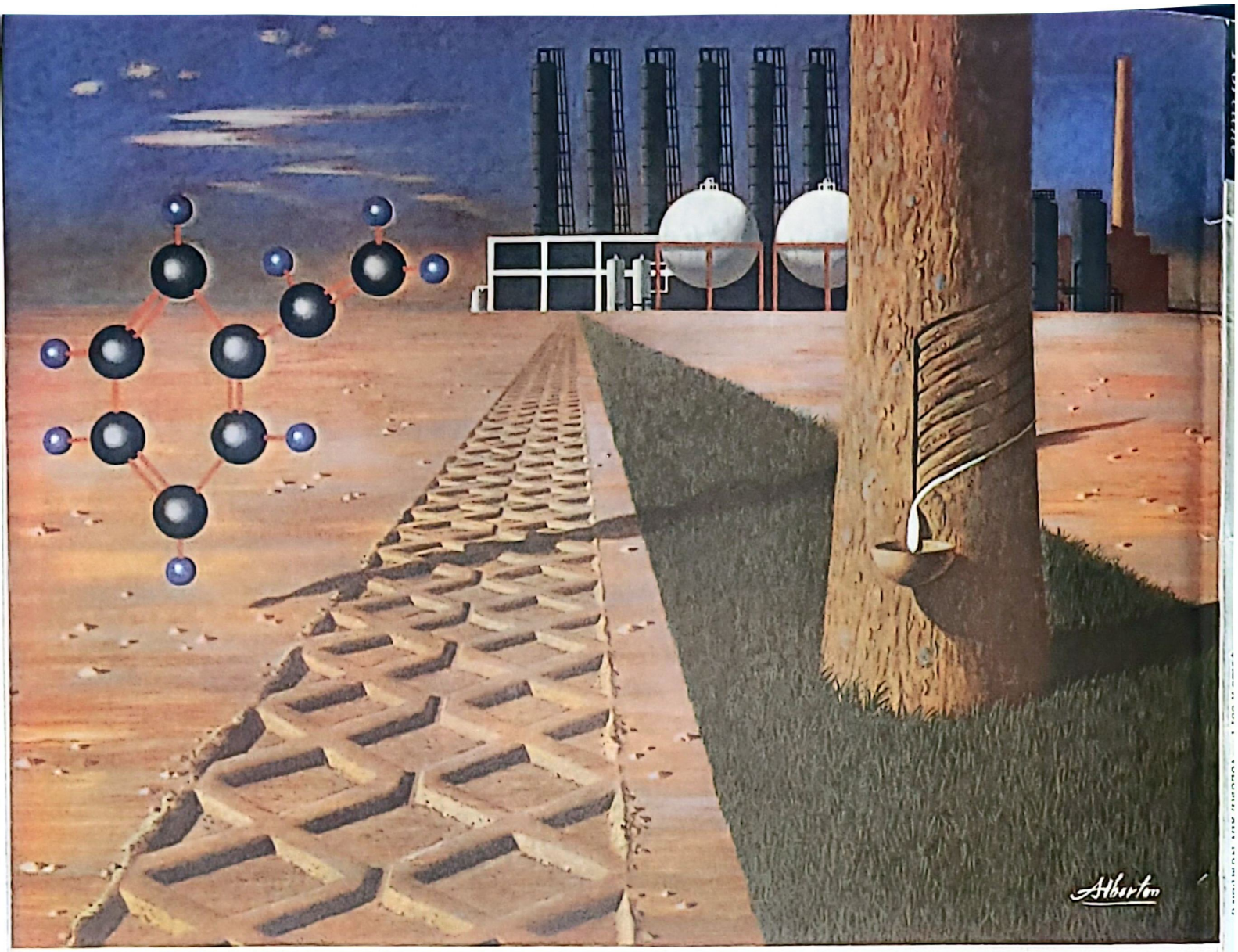

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